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Finanční analýza společnosti Lenovo Group

Financial Analysis of Lenovo Group

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5. Conclusion

Bibliography
List of Abbreviations
Declaration of Utilisation of Results from the Bachelor Thesis
List of Annexes
Annexes

References:

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The declaration

"Here with I declare that I elaborated the entire thesis, including all annexes, independently."

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Contents

1 Introduction

This thesis is about what is financial analysis and how to analyze a selected company's financial situation. Warren Buffett once said: "*No one wants to invest in a company do not understand."* Obviously, financial analysis is very important, investors should use it to understand the enterprise and solving various decision-making problems. Financial analysis is based on accounting, evaluation, company's financial data and various ratios and etc. to do analyzing, investment and other business activities. Through financial analysis, shareholder of the company will know the situation of their company and find the way about how to improve the economic and development of the company; for the enterprise, the business risks and financial risks faced by the company are in the corresponding amplification, so companies need specialized financial analysis to reveal the related risks and opportunities for management, further to take the necessary financial controls, in order to achieve the purpose to avoid and prevent risks; for company's investors, creditors or other individuals, they will get more information about the company and to do better decision, ; for company's investors, creditors or other individuals, they will get more information about the company and to do better decision.

The aim of submitted thesis is financial analysis of a selected company - Lenovo Group. We will select the period from 2011 to 2015, these 5 years as one analysis period. We will introduce three statements, two methodologies: common-size analysis, financial ratio analysis.

The thesis will be divided into five parts, the first part is introduction and the second part is description of financial analysis methodology. Next part is information about Lenovo Group. The fourth is analysis, calculation of Lenovo Group. The last part is conclusion.

Main sources in the thesis are from three statements during 2011 to 2015 of Lenovo Group, source of these information for financial analysis are from financial data (balance sheet, P/L, cash flow) and market data (securities, etc.).

In chapter 2, we will introduce financial statements, common-size analysis, financial ratio analysis and pyramidal decomposition. At first, we will introduce three financial statements: balance sheet, income statement and cash flow statement. Next, we will introduce common-size analysis, it includes horizontal and vertical common-size analysis. And next part we will introduce four kinds of financial ratio analysis: profitability ratios, liquidity ratios, solvency (leverage) ratios and assets management (activity) ratios. At last, we will see the pyramidal decomposition.

In chapter 3, we will show the financial profile of Lenovo Group. First, we will introduce the history of Lenovo Group. Then we will see company structure, products and services, development, ownership and achievement of Lenovo Group. According to this part, the general situation of the enterprise will present.

In chapter 4, we will analyze Lenovo Group through financial analysis methodology (data from three financial statements), it is the most important part of the thesis. Common-size analysis, financial ratios, pyramidal decomposition will be calculated with these data to show various financial conditions and we will be aware of Lenovo Group’s situation much more.

2 Description of Financial Analysis Methodology

Warren Buffett once said: "*No one wants to invest in a company do not understand.*" Obviously, investors should understand the enterprise. First, business managers need to be able to understand. In the financial statements, in addition to enterprise data that reflecting the current situation, managers need to guard against those risks hidden behind the digital differences that companies failed to perceive and dangers may come with the whole enterprise operating out of control. Post-crisis era now, a cloud of smoke still floated over the commercial battlefield. For the enterprise, the business risks and financial risks faced by the company are in the corresponding amplification, so companies need specialized financial analysis to reveal the related risks and opportunities for management, further to take the necessary financial controls, in order to achieve the purpose to avoid and prevent risks.

In this part, we will introduce and describe fundamental financial analysis method. We will divide this chapter into four parts, financial statement, common-size analysis, financial ratio analysis and Pyramidal decomposition (DuPont analysis).

In financial statement, we will introduce three main statement, balance sheet, income statement and cash flow statement. The next part, we will describe common-size analysis, it include vertical common-size analysis and horizontal common-size analysis. Then we will introduce financial ratio analysis and DuPont analysis.

2.1 Financial statement

The financial statements are compiled by the accounting principle, reflecting accounting entity’s financial position and business accounting statements to creditors, government and other parties involved and the public and so on. The financial statements have continuous development with extent of disclosure of accounting information increasingly demanding by a commercial society.

Financial statement (or financial report) is a formal record of financial activities and position of an enterprise, person and other entity. Financial statement is composed of balance sheet, cash flow statement and income statement, financial statements are the major part of the financial report, it does not include the directors' report, management analysis, financial situation, and other information included in the financial statements or annual reports.

In this part, we will introduce these three main statements.

2.1.1 Balance sheet

A balance sheet, reports on a company's assets, liabilities, and owners equity at a given point in time (such as year-end, quarter-end).

Prototype balance sheet produced in ancient Italy, with the development of commerce, merchants who demand for commercial financing increasingly strengthened. Usurious moneylenders out of consideration for the safety of the loan principal, merchants began to focus on their own balance sheets, balance sheet thus born out.

Balance sheet uses the accounting balance principles, put assets, liabilities and shareholders' equity transactions subjects into two blocks: "assets" and "liabilities and shareholders' equity", after journal entry, ledgers, transfer, trial, adjustment, static situation of the enterprise with specific date as a reference, concentrated into a report. The report form’s function, in addition to enterprise internal debug, business direction, preventing malpractice, but also let all reader to know all the business conditions in the shortest time.

"*Assets are the resources controlled by the company as a result of past events and from which future economic benefits are expected to flow to the company.*

Liabilities (debt) represent the obligations of a company arising from past events, the settlement of which is expected to result in an outflow of economic benefits from the company. Generally, it represents the capital provided by creditors that has been borrowed and must be repaid on a predetermined date in the future.

Equity, which is commonly known as shareholders' equity or owners' equity, represents the portion of capital belonging to owners or shareholders of a company and it is determined by subtracting the liabilities from the assets of the company."

Source: *《Financial Management and Decision-making of A Company》*

Table 2.1 Example of the balance sheet.

Balance Sheet	
TOTAL ASSETS	**TOTAL EQUITY+LIABIITITIES**
Long-term assets	**Equity**
Building	Share capital
Financial investment	Treasury shares
Goodwill	Retained earnings
Other long-term assets	Reserves
Current assets	**Liabilities**
Accounts receivable	Accounts payable
Inventories	Short-term borrowings
Cash and cash equivalents	Long-term bank loan
Income tax	Notes payable
Other current assets	Other liabilities

Source: *Made by own*

There is a basic equation in the balance sheet:

$$ASSETS = LIABILITIES + SHAREHOLDERS'EQUITY \qquad (2.1)$$

Assets can be divided into long-term assets and current assets.

Long-term assets also mean fixed, non-current asset, they are used over many years and not consumed in the current period. Long-term assets can be classified into three categories: tangible assets, intangible assets and financial investments. Tangible assets include buildings, land, equipment and etc. Intangible assets, they do not have a physical form, such as goodwill and patents.

Current asset, which is expected to be used for sale or consumption through the normal operations within operating cycle. This kind of assets can be quickly converted into cash. Current assets, in turnover transition, starting from the form of currency, and then click to change its shape, and finally back to the form of currency (Cash and cash equivalents → Storage fund, fixed funds → Production capital → fund in finished product → Cash and cash equivalents), various forms of funds combine with production and distribution, have a fast turnover and strong liquidity. Current assets include cash, short-term investments, receivable notes, accounts receivable and inventory and so on.

Liabilities also can be divided into two parts: Current liabilities and long-term liabilities. Liabilities in balance sheet reflects that it is a present obligation at a specific date, undertaken by an enterprise, expected to lead to the outflow of economic benefits. Liabilities shall be presented in accordance with the current liabilities and non-current liabilities in the balance sheet, then to be presented with nature under current liabilities and non-current liabilities category.

Current liabilities are expected to be paid off in a normal cycle of business after the balance sheet date, usually include: short-term borrowings, notes payable, accounts payable, advance payments, employee benefits payable, taxes payable, interest payable, dividends payable and other payables.

Non-current liabilities are those liabilities that in addition to current liabilities. It includes long-term loans, bonds payable and other non-current liabilities.

Owner's equity is the residual interest after assets of the enterprise deducting liabilities, reflects the enterprise’s total net assets owned by shareholders (investors) at a specific date.

2.1.2 Income Statement

Income statement, also called statement of earnings statement, refers to the accounting statements that reflect enterprises’ operating results at certain accounting period and the distribution of results. It is the financial record of company’s operating performance, reflecting the sales income, the cost of sales, operating expenses and tax status of this time, report results are profits or losses achieved by the company.

Income statement, according to the composition and distribution of profits, it has been divided into two parts. Its profit components list sales revenues, then minus the cost of sales, finally comes to the sales profits; then minus a variety of the fees, obtains operating profit (or loss); then plus or minus non-operating income or non-operating expenses, namely the total profit (loss). Profit distribution section, first, total profit minus income tax payable, comes to after-tax profits; there is provident fund and profit payable extracting by allocation scheme; if there is remaining balance, that is the undistributed profits. The income statement’s part of the profit allocation set aside separately, it was “profit distribution.”

The basic formula in income statement is:

$$REVENUES - EXPENSES(COSTS) = NET\ \ INCOME/LOSS \qquad (2.2)$$

Table 2.2 Example of the income statement

Revenue
Net sales
Other income
Expense
Cost of goods sold
Operating cost
Business tax and surcharges
Selling expenses
Administration expense cost
Financial cost
The total profit (EBIT)
Interest
Pre-tax income (EBT)
Income tax
Net profit (EAT)

Source: *Own made*

We call operating profit before interest and taxes – EBIT. Sum of operating and financing income is EBT, it means profit before taxes. "T" is company's tax, "t" is corporate tax rate. Profit after tax is EAT (net income).

The calculation is:

$$T = EBT \times t \tag{2.3}$$

Then, we will introduce some basic items in income statement.

Revenues are inflows of assets (or reductions in liabilities) from providing goods and services to customers.

Investment income: Net income refers to profits of foreign investment made, dividends and bond interest and other income minus investment loss. Including investment income of associates and joint ventures.

Expenses arise from consuming resources in order to generate revenue.

Period expenses: refers to the business in the current period, can not be classified as direct or indirect operating costs, but the costs directly charged to profit or loss. Including marketing expenses, administrative expenses and financial expenses.

Operating income is the difference between and gross margin, selling and administrative expenses. When interest and income tax expense are deducted from operating income, the result is net income.

Accounting information reflects on the income statement, can be used to evaluate the operating efficiency and operating results of a business, assess the value and rewards of investments, and then measure the degree of success of an enterprise in the operation management.

2.1.3 Cash flow statement

Cash flow statement is one of the three basic financial statements, it is the institution's cash (including bank deposits) change (increase or decrease) in a fixed period (usually monthly or quarterly), are usually used as the basis for budgeting and business-planning.

The emergence of the cash flow statement, mainly to reflect the impact to cash flow from each item for in balance sheet, and according to their use classification, divided into three activities: operating, investing and financing. Cash flow statement can be used to analyze an organization in the short term, if there is enough cash to meet the expenses or not. (*International Financial Reporting Standards Publication No. 7 Specification, regulate the cash flow statement.*)

Cash flow statements evaluates the amount and predictability of cash-inflows and cash-outflows, a cash flow statement typically show a company's cash sources and uses for period into three categories: cash flow from operating activities, from investing activities, and from financing activities.

And we need to notice that cash flow is not the same as net income. For example, depreciation is a noncash expense that is included in net income calculations but not in cash flow calculations.

Basic formulas:

$$Net\ \ cash\ \ flow = sum\ \ of\ \ inflows - sum\ \ of\ \ outflows \tag{2.4}$$

$$Cash\ \ at\ \ the\ \ end = Cash\ \ at\ \ the\ \ beginning \pm Net\ \ cash\ \ flow \tag{2.5}$$

There are four situations about P/L statement and CF:

Table 2.3 Four resulting situations

P/L	Profit	Profit	Loss	Loss
CF	Positive CF	Negative CF	Positive CF	Negative CF

Source: *Own made*

From this table, we can easily know that profit is not the same as the cash flow. The enterprise can have profit, but it may have no cash.

Cash flow's three categorizations are cash flow from operating activities, cash flow from investing activities, and from financing activities.

From operating activities includes sales of goods or other services, cash payments for inventory, taxes and etc. Because working capital is an important part of operating activities, investors should pay attention to that the enterprise can influence cash flow by making the time (pay the bills) longer and the time that it takes to collect things they owed shorter. It makes receiving cash speeding up.

Cash flow from investing activities includes selling and purchasing long-term assets. Such as: property, equipment and intangible assets.

Financing activities includes obtaining and repaying capital, such as borrowings or sale of common stock, repaying bonds and repaying credits and borrowings.

There is the formula about cash flow:

$$\begin{aligned} &Total\ \ cash\ \ flow \\ &\qquad = cash\ \ flow\ \ from\ \ operating\ \ activities \\ &\qquad + cash\ \ flow\ \ from\ \ investing\ \ activities \\ &\qquad + cash\ \ flow\ \ from\ \ financing\ \ activities \end{aligned} \tag{2.6}$$

Table 2.4 An example of CF Statement

Net income
Operating activities, cash flows provided by or used in
Depreciation and amortization
Adjustments to net income
Decrease (increase) in accounts receivable
Increase (decrease) in liabilities (A/P, taxes payable)
Decrease (increase) in inventories
Increase (decrease) in other operating activities
Net cash flow from operating activities
Investing activities, cash flows provided by or used in:
Capital expenditures
Investments
Other cash flows from investing activities
Net cash flows from investing activities
Financing activities, cash flows provided by or used in:
Dividends paid
Sale (repurchase) of stock
Increase (decrease) in debt
Other cash flows from financing activities
Net cash flows from financing activities
Effect of exchange rate changes
Net increase (decrease) in cash and cash equivalents

Source: *http://zhidao.baidu.com*

2.2 Common-size analysis

Common-size analysis is a kind of methodology to analysis financial situation of the enterprise. It shows the percentages of all items, as a common base. For example, assets/liabilities/costs account for total assets/liabilities/income. This methodology identifies the differences.

The denominator in balance sheet usually are total assets, in income statement are total revenues.

In common-size analysis, there are two types. One is horizontal common-size analysis and another one is vertical common-size analysis.

Horizontal common-size analysis, focus on comparing different years of the key item, vertical analysis focused more on analysis of every item's internal structure in internal reporting.

The biggest benefit of a common-size analysis is that it can let an investor identify large or drastic changes in a firm's financials. Rapid increases or decreases will be readily observable, such as a rapid drop in reported profits during one quarter or year. In IBM's case, its results overall have been relatively steady. One item of note is the Treasury stock in the balance sheet, which has grown to more than a negative 100% of total assets. But rather than alarm investors, it indicates the company has been hugely successful in generating cash to buy back shares, which far exceeds what it has retained on its balance sheet.

Source: *http://www.investopedia.com*

2.2.1 Horizontal common-size analysis

Horizontal common-size analysis, refers to the reporting period reflect the financial status information (financial statements information) with the previous history or financial situation of a given period reflect comparative information, the study of changes in the development of enterprises operating results or financial condition a financing method for the analysis of the situation.

The earliest period is usually used as the base period and the items on the statements for all later periods are compared with items on the statements of the base period. The changes are generally shown both in dollars and percentage.

Source: *http://www.accountingformanagement.org*

Horizontal analysis can be used to conduct for balance sheet, income statement and schedules of current and fixed assets.

There are two basic ratios:

$$Absolute\ \ change = A_t - A_{t-1} \tag{2.7}$$

$$Relative\ \ change(in\ \ percentage) = \frac{A_t - A_{t-1}}{A_{t-1}} \times 100\% \tag{2.8}$$

Where A_t is amount of analysis period, A_{t-1} is amount of previous period. The previous period can be last year.

Table 2.5 An example of Horizontal analysis (unit: USD)

	2011	2012	Increase (or decrease)	
Assets			Amount	Percentage (%)
Total assets	1000	1500	500	50
Current assets	300	400	100	33.33
Long-term assets	500	700	200	40
Other assets	200	400	200	100

2.2.2 Vertical common-size analysis

Vertical common-size analysis is an analytical method that can be used for analysis of financial information. In a financial statement with each item in the table with the overall data (or the number of total reports) compared to arrive at the project location in the population, the importance of the changes.

Comparing with horizontal common-size analysis, it just makes longitudinal analysis to income statement or balance sheet: all items in the income statement as a percentage of revenue, in the balance sheet items are expressed as a percentage of total assets.

The procedure of vertical common-size analysis is:
(1) Calculated each item accounts for the overall proportion in the table; (2) Through the ratio, determine the position occupied in the report and item's importance; (3) Compare the ratio with the base period or the previous year's ratio data, observed trends of change.

$$Percentage\ \ of\ \ base = \frac{Amount\ \ of\ \ individual\ \ item}{Amount\ \ of\ \ base} \times 100\% \qquad (2.9)$$

Table 2.5 An example of Vertical common-size analysis (unit: USD)

Assets	2011	Percentage (%)	2012	Percentage (%)
Current assets	533000	43.3	550000	48.3
Total assets	1230500	100	1139500	100

2.3 Financial ratios analysis

Financial ratios can assess changes in an investment between annual revenue, you can also compare different companies at some point an industry. Financial ratio analysis can eliminate the influence of the scale used to compare the benefits and risks of different companies to help investors and creditors to make rational decisions.

Financial ratios analysis is calculated from financial data, ratios are a useful methodology of showing relationships. Not all financial ratios are useful and important to an analysis. We should find correct ratios to use in different analysis.

In this chapter, we will introduce four kinds of financial ratios, profitability ratios - show company's ability to get profit from investing, liquidity ratios - company's ability to meet short-term obligations, solvency ratios - company's ability to meet long-term obligations and activity ratios - company's efficiency of using funds.

2.3.1 Profitability ratios

This ratio is to analyze company's ability to generate profit from invested capital. Profitability ratios refer to normal business ability to make a profit and it is the basis of survival and development of all aspects of the indicators are very concerned. Whether investors, creditors, or business executives, have increased attention and concern for corporate profitability.

Profitability ratios reflects the competitive position in the market of a company, the profitability ratios much higher, the competitive position of the company is much better. Also, this ratio shows the equality of company's management.

Profitability ratios can be divided into two types: margins and returns.

Margins ratios show the firm's ability to translate sales into profits in various levels of measurement, for example, operating profit margin.

Operating profit is also known as EBIT, it refers to the ratio of the operating profit and operating income. It is a measure of business efficiency indicators, reflecting in consideration of operating costs, the ability to obtain profits through business enterprise managers.

In brief, operating profit margin measures operating profit per unit of revenues. Here is the calculation:

$$OPM = \frac{EBIT}{Total\ \ Revenues}\left(or\ \ \frac{OP}{Total\ \ Rev}\right) \tag{2.10}$$

The higher operating margin, indicating more operating profit enterprises merchandise sales offer, profitability is stronger; on the contrary, the lower this ratio, indicating weaker corporate profitability.

Its affecting factors have: the sales volume, average selling price per unit of product, the unit manufacturing costs and ability to control marketing and management costs.

Net profit margin refers to the contrast between the net profit enterprises and sales to measure the ability of enterprises in a certain period of revenue acquisition, how much cost operating profit indicators can be obtained. It shows the company's profit after tax per one unit of revenues. Production and sales are after all expenses.

The formula is:

$$NPM = \frac{EAT}{Revenues} \tag{2.11}$$

The EAT means profit after tax. When company increases its income, at the same time, it must gain more net profit accordingly, in order to make net profit margin remain unchanged or improved.

The cash flow margin ratio shows the relationship between operating cash and sales. As we know, company needs cash to invest and pay service debt, so it is an important ratio.

In brief, this ratio measures the ability to convert sales into cash. The formula is:

$$Cash\ \ flow\ \ margin = \frac{Operating\ \ CF}{Net\ \ sales} \tag{2.12}$$

By analyzing changes in the lift sales margin can encourage enterprises to expand sales in the same time, pay attention to improve management, improve profitability.

And return ratios have return on assets, return on equity and etc.

Return on assets calculate a company's earned return on its assets, the ratio higher, the income of assets is higher. This ratio measures net profit or operating profit, both EAT (profit after tax) and EBIT (earnings before interest and tax) may be used. Return on assets is the industry's most widely used measure of bank profitability index, the higher the index, indicating the better use of corporate assets, indicating that enterprises have achieved good results in increased income and savings funds, etc., otherwise contrary.

Here are the basic formulas:

$$ROA = \frac{EBIT}{Average\ \ total\ \ assets} \tag{2.13}$$

Or

$$ROA = \frac{EAT + I \times (1 - tax\ \ rate)}{Average\ \ total\ \ assets} \tag{2.14}$$

Return on equity refers to ROE, is a measure of stock investors return indicators. It also evaluated the performance of corporate management - profitability, asset management and financial control.

It is one of the key profitability ratios. The return earned by the company on equity capital, including common equity and preferred equity.

The formula is:

$$ROE = \frac{EAT}{Equity} \tag{2.15}$$

Warren Buffett likes to find some sustainable competitive advantage and fellow competitors are difficult to competing companies. About Company has such advantage, usually have a common logo, which is a higher ROE. Warren Buffett once said that a successful stock investment depends on whether the underlying business has continued to generate earnings growth of profitability, because the company's profits will be increased over time, the company stock price will reflect the company due to the intrinsic add value

and continue to rise, which is a good ROE monitoring indicators. Buffett's stock selection model, one of the conditions is to find a company an average ROE of more than 12%.
Source: *http://www.baidu.com*

Return on assets' and return on equity's relationships has distinction:
Many people put ROE and ROA equate, in fact, it is not the same. Return on Equity (ROE) is shareholders 'equity divided by book value per share of after-tax earnings per share, or a total after-tax earnings (EAT) company divided by the total book value of shareholders' equity (EQ). The return on assets (ROA) is the ratio of the company's total after-tax income (plus interest) and the company's total assets of the relationship.

2.3.2 Liquidity ratios

Liquidity analysis measures company's ability to reach short-term obligations and liabilities, liquidity shows that how assets converted into cash. Liquidity ratios analyze a company's ability to clear off its current liabilities, it means the company's cash levels.

Mainly, it uses data from the balance sheet's end, not the averages. There are three ratios: current ratio, quick ratio and cash ratio.

Current ratio is current assets / current liabilities ratio, a measure of corporate liquidity in short-term debt before maturity, it can be turned into cash for the ability to repay debt. Generally believed that the current ratio should be 2: 1 or more, it represents the current assets are twice to current liabilities, even if half of current assets can not be realized in the short term, but also to ensure that all current liabilities repaid.

The formula is:

$$Current\ \ Ratio = \frac{current\ \ assets}{current\ \ liabilities} \tag{2.16}$$

Current assets are realized or an enterprise can use within an operating cycle of one year or more than one year of assets, including money funds, short-term investments, notes receivable, accounts receivable and inventory and so on.

Current liabilities, also known as short-term liabilities refer to the debts will be repaid within a year or an operating cycle longer than a year, including short-term borrowings, notes payable, accounts payable, accounts receivable in advance, dividends payable, taxes payable, other temporary income payable, accrued expenses, and long-term borrowings due within one year.

The higher the current ratio, the greater the liquidity of corporate assets, however, show that the ratio of current assets occupy much more, it will affect the efficiency of operating cash flow and profitability. It is generally considered a reasonable minimum liquidity ratio of 2.

Quick ratio is a measure of the company's assets as liquidity indicators. Reflect the company's cash or realizable assets to current liabilities ability to repay immediately, it is similar to current ratio.

Under normal circumstances, the company quick ratio is 1, the quick ratio of less than 1 is considered low short-term solvency. But this is only the general view, because the industry is different, quick ratio will be very different, there is no uniform standard quick ratio. High proportion, indicating that the company's liquidity surplus capacity problems; the ratio is too low, indicating that the company's current indebtedness may occur repayment risk.

The calculation is:

$$Quick\ \ Ratio = \frac{current\ \ assets - inventories}{current\ \ liabilities} \tag{2.17}$$

Or

$$Quick\ \ Ratio = \frac{cash + accounts\ \ recelivable}{current\ \ liabilities} \tag{2.18}$$

Important factor that affect the credibility of the quick ratio is the cashability of accounts receivable. Due to the difference between industries, in the calculation of the quick ratio, in addition to deducting the inventory, you can also remove some other possible with current cash flow unrelated items (such as prepaid expenses and etc.) from current assets.

Cash ratio is that we calculate company's cash and total cash equivalents assets, so to measure the liquidity of the company's assets.

It put inventories and receivables excluded, that is, the ratio of cash only measure all assets and liabilities with respect to the current most liquid items, so it is also the most conservative ratio in three liquidity ratios.

The formula is:

$$Cash\ \ Ratio = \frac{cash+marketable\ \ securities}{current\ \ liabilities} \tag{2.19}$$

In addition, we should pay attention to the use of this calculation. Cash ratio does not consider the cash received and the time cash payment.

Cash ratio is generally believed that more than 20% as well. But this ratio is too high, it means that the enterprise has not been rational use of current assets, cash assets and low profitability, the amount of such assets is too high will lead to increased business opportunities for cost.

2.3.3 Solvency ratios

Solvency ratio is one of financial ratios to analysis the company. It is used to measure the ability of a company's long-term debts. Sometimes, it is so called financial leverage ratios. The solvency ratio shows the size of the company, not including the non-cash depreciation expenses. It provides the assessment of company's long-term obligations include components of its financial structure.

Leverage ratios have two types, debt ratios and coverage ratios.

Debt ratio refers to the ratio of total liabilities divided by total corporate assets. This ratio can display percentages and leverage assets by the process of loan financing obtained, may also explain the situation to the creditor protection. Liabilities are creditor's claims on assets, when the amount of creditor claims on assets greater after the liquidation of all the less likely to recover the loans. Moreover, the larger proportion means the enterprises' assets mostly from debt, then the financial results of enterprises more inadequate. More debt, interest costs are much more detrimental to creditors. Creditors wished debt ratio the smaller the better. The calculation is:

$$Debt\ \ Ratio = \frac{total\ \ debt\ \ (total\ \ liabilities)}{total\ \ assets} \tag{2.20}$$

Debt to equity ratio is also known as owner's equity to liabilities ratio is a measure of the company's financial leverage indicators, namely the establishment of the company's assets in equity funding and debt ratio display.

It is a leverage ratio because it measures the degree that assets (of the enterprise) are financed by debts and shareholders' equity (of a business). It is similar to debt ratio. This is the formula:

$$Debt\ \ to\ \ equity\ \ ratio = \frac{total\ \ debt(total\ \ liabilities)}{equity} \tag{2.21}$$

Debt equity ratio reflects the contrast between the capital and shareholders provided by creditors to provide funds, the lower the ratio, indicating better corporate long-term financial situation, the interests of creditors are protected. The ratio should generally be less than 1.0.

Financial leverage ratio is the degree that an investor or enterprise is using borrowed money. Company, which is highly leveraged, may have risk of bankruptcy. If they ca not make payments for their debt, they may also be unable to find new lenders. Financial leverage is not always bad, in other way, it can increase the shareholders' return on investment and sometimes there are tax advantages, it also called leverage.

The financial leverage ratio sometimes referred to as equity multiplier. This is the calculation:

$$Financial\ \ leverage = \frac{total\ \ assets}{total\ \ equity} \tag{2.22}$$

Interest coverage is also called times interest earned, it also known as interest earned ratio, refers to the project in the interest of each loan repayment period can be used to pay interest on pre-tax profit and the current ratio of interest expense payable.

The formula is:

$$Interest\ \ coverage = \frac{EBIT}{Interest\ \ paid} \tag{2.23}$$

Or

$$Interest\ \ coverage = \frac{Operating\ \ profit}{Interest\ \ paid} \tag{2.24}$$

Where EBIT is total profit and included in the total cost of interest expenses, interest paid included in the total cost of all interest.

Under normal circumstances, ICR> 1, indicates enterprises have the ability to repay interest; ICR <1, that companies do not have sufficient funds to pay interest on debt is very risky.

2.3.4 Activity ratios

Activity ratios are accounting ratios that measure a firm's ability to convert different accounts within its balance sheets into cash or sales. Activity ratios are used to measure the relative efficiency of a firm based on its use of its assets, leverage or other such balance sheet items. These ratios are important in determining whether a company's management is doing a good enough job of generating revenues, cash, etc. from its resources.

Source: *http://www.investopedia.com*

It measures how a company uses its assets, shows how much the company invests. It is also known as assets management ratios and operating efficiency ratios.

Next, we will introduce some basic ratios of activity ratios.

Inventory turnover ratio is the ratio of cost of goods sold and average inventory balances enterprise certain period. Inventory turnover rate to reflect that liquidity and inventory amount of funds used inventory is reasonable, encourage enterprises to ensure the continuity of production and management, improve capital efficiency, and enhance their short - term solvency.

Inventory turnover is a supplement of current asset turnover, through calculation and analysis of inventory turnover rate, turnover rate can be determined given period of inventory assets of the enterprise, is a reflection of corporate purchase, production A pin balance scale efficiency. The higher inventory turnover, inventory assets that companies the cashability is stronger, inventories and occupancy in the inventory cash flow faster.

$$IT = \frac{costs\ of\ goods\ sold}{average\ inventory} \tag{2.25}$$

$$Inventory\ \ days = \frac{Average\ \ inventory}{Revenues} \times 360 \tag{2.26}$$

In the current assets, inventories larger proportion of stock liquidity will directly affect the flow rate. Therefore, we must pay special attention to the inventory analysis. Analysis of stock liquidity is generally carried out by the inventory turnover rate.

Generally, the faster inventory turnover (inventory turnover rate, or the greater the number of inventory turnover, inventory turnover days shorter), the lower the inventory level occupancy, more liquid, inventory or accounts receivable into cash rate faster, it will enhance the short - term solvency and profitability. Through analysis of inventory turnover rate, it helps to find small problems that exist in inventory management, minimize the level of funds used.

Average collection period is the number of days divided by the receivables turnover in a period.

It is an enterprise from the right to recover the money to accounts receivable, cash conversion time required. Is a supplementary indicator accounts receivable turnover rate, the shorter the turnover days, indicating that the better the liquidity efficiency. The company is a measure of how long it takes to recover the receivables, belonging to the company the ability to analyze business category. The formula is:

$$ACP = \frac{accounts\ \ receivable}{revenues} \times 360 \tag{2.27}$$

It shows how long it takes to collect company's receivables. Accounts receivable turnover, the more the number of days short turnaround; the less turnover, the turnover days longer. Fewer turnover days, indicating cash receivables faster, the shorter the capital occupied by other units of time, the more efficient management.

Accounts receivable turnover ratio is the average number of times in a given period (usually a year) accounts receivable into cash. Accounts receivable turnover ratio, also known as accounts receivable, is used to measure the degree of flow indicators enterprise accounts receivable, it is a period of time (usually a year) and the ratio of net credit the average balance of accounts receivable of enterprises.

It shows the time that needed between obtaining the rights from accounts receivable and receiving the money and converting into cash. The below is formula:

$$ART = \frac{revenues}{accounts\ receivables} \tag{2.28}$$

Generally, the accounts receivable turnover ratio is better as high as possible, that the company accounts receivable speed, average collection period is short, less bad debt losses, quick liquidity, solvency strong. Correspondingly, the number of days accounts receivable turnover is as short as possible.

Total assets turnover is an efficiency ratio that shows company's assets to come into being revenues. Turnover is greater, shows the total assets turnover is faster. This reflects the ability of sales is strong.

This indicator is usually defined as the ratio of sales to average total assets.

Companies can through puerile way to accelerate the turnover of assets, bringing the increase in the absolute amount of profit.

The formula is:

$$TAT = \frac{revenues}{total\ assets} \tag{2.29}$$

Turnover can be divided into: total asset turnover, turnover category (current asset turnover and fixed asset turnover) and individual turnover (accounts receivable turnover and inventory turnover rate, etc.) these three categories.

Through comparative analysis of the indicators may reflect the current year and prior year operating efficiency and changes in total assets, it found that companies with similar business in asset utilization, under normal circumstances, the higher the value, it shows total assets turnover faster. Sales ability is stronger, the higher the efficiency of asset utilization.

2.4 Pyramidal decomposition

DuPont analysis (DuPont Analysis) is using the relationship between several key financial ratios to a comprehensive analysis of the financial situation of enterprises. Specifically, it is a company used to evaluate the level of profitability and return on shareholders' equity, a classical enterprise performance evaluation methods from a financial point of view. The basic idea is to corporate ROE financial ratios progressively broken down into a number of products, which helps in-depth analysis and comparison of business performance. Because the analysis methodology used firstly by The United States DuPont, so it was called DuPont analysis.

The ROE is divided into three parts to analyze: net profit margin, total asset turnover and financial leverage.

$$ROE = \frac{EAT}{Equity} = \frac{EAT}{Revenues} \times \frac{Revenues}{Total\ \ Assets} \times \frac{Total\ \ assets}{Equity} \tag{2.30}$$

And $\frac{EAT}{Revenues}$ is known as the net profit margin, it also can be divided into three parts: tax burden, interest burden and operating margin. So the formula is:

$$\frac{EAT}{Revenues} = \frac{EAT}{EBT} \times \frac{EBT}{EBIT} \times \frac{EBIT}{Revenues} \tag{2.31}$$

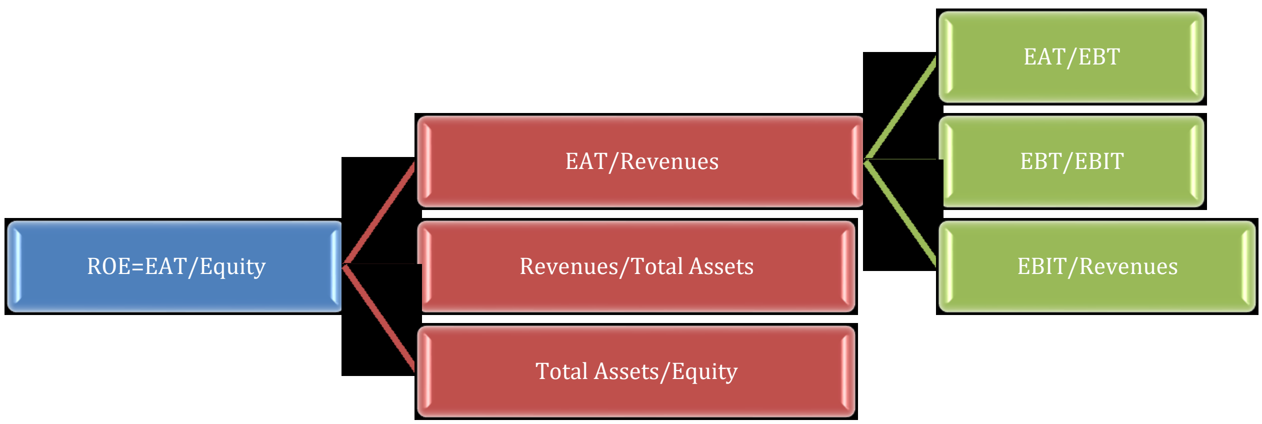
Where EAT is profit after tax, EBT is profit before taxes, EBIT is earnings before interest and tax.

So, after the DuPont analysis, we get:

$$ROE = \frac{EAT}{EBT} \times \frac{EBT}{EBIT} \times \frac{EBIT}{Revenues} \times \frac{Revenues}{Total\ \ Assets} \times \frac{Total\ \ assets}{Equity} \qquad (2.32)$$

We can see DuPont analysis of return on equity (ROE) clearly in below chart:

Chart 2.1 Pyramidal decomposition of ROE



3 Financial profile of Lenovo Group

In this chapter, we will describe the financial profile of the selected company - Lenovo Group. Even though the financial analysis methodology of companies is almost the same, every company has its own profile. This chapter will be divided into six parts: Introduction of Lenovo Group, History of the Lenovo Group, Company structure of Lenovo Group, Products and services of Lenovo Group, Corporate affairs of Lenovo Group, Achievements of Lenovo Group.

3.1 Brief introduction

"*Lenovo Group Ltd. is a Chinese multinational computer technology company with headquarters in Beijing, China, and Morrisville, North Carolina, United States.*[1] *It designs, develops, manufactures and sells personal computers, tablet computers, smartphones, workstations, servers, electronic storage devices, IT management software and smart televisions. In 2015, Lenovo was the world's largest personal computer vendor by unit sales. It markets the ThinkPad line of notebook computers and the ThinkCentre line of desktops.*"

Source: *https://en.wikipedia.org/wiki/Lenovo*

[1] "Our Company" *About Lenovo*.
Lenovo. Retrieved 30 April 2013. "We have headquarters in Beijing, China and Morrisville, North Carolina, U.S."

Logo of Lenovo Group **[Picture 3.1]**

Lenovo Group has business in more than 60 countries and sells its products in almost 160 countries. Lenovo's principal facilities are in Beijing, Morrisville and Singapore. With research centers in Beijing, Morrisville, Shanghai, Shenzhen, Xiamen, Chengdu, Nanjing and Wuhan in China, and Yamato in Kanagawa of Japan. "It operates a joint with EMC, which sells network-attached storage solutions. It also has a joint with NEC, Lenovo NEC Holdings, which produces personal computers for the Japanese market."

Lenovo is a company that was invested with 200,000 RMB by Institute of Computing in 1984, and founded by 11 science and technological personnel, and it is a diversified in the information industry development of large enterprise groups, the internationalization of innovative technology companies. Since 1996, Lenovo PC's sales have been ranked first in China's domestic market; in 2004, Lenovo acquired IBM PC (Personal computer, personal computer) division; in 2013, Lenovo PC's sales rose 1st in the world, and became the world's largest PC manufacturers. In October 2014, Lenovo announced that it has completed the acquisition of Motorola's mobile.

Since April 1, 2014, Lenovo Group set up four new and independent business groups, namely PC Business Groups, Mobile Business Group, Enterprise Business Group, Cloud Services Business Group.

"*Lenovo is listed on the Hong Kong Stock Exchange and is a constituent of the Hang Seng China-Affiliated Corporations Index, often referred to as 'Red Chips'.* "

Lenovo Group Building **[Picture 3.2]**

3.2 History of the company

In 1984, Liu (the first CEO) led 10 Chinese computer scientists recognize that the PC will change the way people work and live. Carries 200,000 RMB ($ 25,000) in start-up capital and R & D results into successful products of the firm determination of the 11 researchers in a rented Beijing bureau of the start a business, the young company named “legend”. In the company's development process, Lenovo and innovation, to achieve a number of major technological breakthroughs, including the successful development can be translated English operating systems into Chinese “Lian Xiang Shi Han card”, developed a key to access the PC, and in 2003 launch the associated application completely innovative technology, thus establishing the important position in the association of the 3C era. With these leading-edge PC products, Lenovo climbed up the

Chinese IT industry since 1997, the association for eight consecutive years occupied the first position of the Chinese market share. Since 1997, the association has been reelected Chinese domestic market sales of the first, accounting for more than three percent share of China's PC market.

In 1994, Lenovo was listed in Hong Kong Stock Exchange, a new level of development.

April 2003, Lenovo Group in Beijing announced officially the opening of the Group of the new logo "Lenovo", with "Lenovo" logo in English instead of the original "Legend", and registered worldwide. In China, Lenovo will maintain the use of "English + Chinese" identity; in the overseas it only use English identity. "Lenovo" is a portmanteau word, "Le" from "Legend", "Novo" is a fake Latin word, from the "new (nova)".

In 2004, Lenovo became the first Chinese companies of IOC’s global partner to provide desktop computers, notebooks, servers, printers, and so on for the Torino 2006 Winter Games and 2008 Beijing Olympic Games exclusively.

Lenovo completed the acquisition of the IBM Personal Computing Division in May 2005, it has taken the most important step of internationalization two companies share the same dream to join hands in the name of the association, which marks the new Lenovo born.

By the 2013, Lenovo Group set up headquarters in the United States Raleigh, North Carolina (Research Triangle Park headquarter), Beijing, People's Republic of China and Singapore, three headquarters.

In 2013, Lenovo was awarded the China Brand Value Research Institute, Central National Census Commission and the focus of China, these three institutions. They jointly issued the 2013 annual 500 Chinese brands, global enterprise section 329.

3.3 Company structure

According to ZDNet reports: "*March 18 2016, according to ZDNet understood Lenovo Group made a organizational strategic restructuring, divided into four business groups, new organizational structure adjustment will be officially implemented on April 1 this year.*"

Lenovo Group in the world is divided into two major general headquarters, the first one is located in China, Beijing, Lenovo's worldwide administrative headquarters: Lenovo China Mansion, the second one is temporary general headquarters when China's Lenovo Group acquisitioned IBM's PC business in United States in 2004, known as "IIPC". The China Lenovo Group Mansion in Beijing is the real global administrative headquarters. After acquisition of the IBM Global PC business in 2004, Lenovo established two major operations center in Beijing, China and the Raleigh, North Carolina, USA simultaneously. Through the league of its own sales organization， Lenovo's business partners and IBM, the new Lenovo's sales network throughout the world. Lenovo has over 27,000 employees worldwide.

In China

Except the Beijing platform, Lenovo Group has regional platforms in Shanghai, Hong Kong, Macau, Shenzhen, Huiyang, Shenyang, Wuhan, Xi'an and Chengdu. And it has offices in Harbin, Jinan, Nanjing, Hangzhou, Guangzhou, Zhengzhou, Nanning, Guizhou, Chongqing, Kunming, Urumqi, Changchun, Lanzhou and Nanchang.

Lenovo has modern production base in both Beijing, Shanghai and Huiyang, producing desktop computers, servers, laptops, printers, handheld computers, motherboards and other products, the annual production capacity will reach 500 million units (computers); while in Xiamen there is a large-scale production base of phone.

In foreign countries

In foreign countries, like European Region, Americas Region, including the United States, Britain, the Netherlands, France, Germany, Spain, Austria, seven subsidiaries.

3.4 Products and services

Lenovo products and services includes: Think brand commercial PC, ThinkPad, Think Server, Think Centre, Think Station, Think Vision displays, Idea Centre, Smart televisions, Smart phones, Wearables, Lenovo Connect.

July 25, 2014, Lenovo's Internet entrepreneurial platform - NBD (New Business Development, nicknamed the "new bench"), this sector launched formally the first three innovative products formally: Smart glasses, intelligent air purifier and an intelligent router.

Next, we will introduce some major products and services.

The first one is ThinkPad. "*The ThinkPad is a line of business-oriented laptop computers known for their boxy black design, modeled after a traditional Japanese lunchbox. Think Pads were originally an IBM product; they have been manufactured and sold by Lenovo since early 2005, following its acquisition of IBM's personal computer division. The ThinkPad has been used in space and is the only laptop certified for use on the International Space Station.*"

Sources: *http://en.wikipedia.org/wiki/ThinkPad*

The picture below is a Lenovo ThinkPad X1 Ultrabook.

A Lenovo ThinkPad X1 Ultrabook **[Picture 3.3]**

The second one is Think Centre. The Think Centre is a product to business, it is a desktop computer that was released in 2003 by IBM and since now it has been produced and sold by Lenovo. Since 2005, Think Centre computers typically include mid-range to high-end processors, which has discrete graphics choices card and multi-monitor support.

The third one is Think Station. Lenovo's Think Stations are workstations designed for high-end computing. In 2008, Lenovo expanded the focus of its THINK brand to include workstations, with the Think Station S10 being the first model released.

Next is Idea Pad. " *The Idea Pad laptops were announced in January 2008. The first three models in the product line were the Y710, the Y510, and the U110. Some of the features that defined these first three models were widescreens, VeriFace facial recognition, frameless screens, touch controls, and Dolby speaker systems.* "

" *The Idea Pad design marked a deviation from the business-oriented laptops, to a more consumer-oriented look and feel. Among these changes were a glossy screen and the absence of the traditional ThinkPad TrackPoint. Notebook Review said the keyboard* *had a ‘distinctive ThinkPad feel’ and ‘the touchpad and touchpad buttons were smooth and responsive.’* ”

Sources: ***https://en.wikipedia.org/wiki/IdeaPad***

The fourth that we will see is Smartphones. By January 2013, Lenovo only manufactured phones that use the operating system-Android from Google. Many press reports indicated that Lenovo planned to produce a phone using Windows Phone 8 system. “According to J. D. Howard, a vice president at Lenovo's mobile division, the company would release a Windows Phone product if there is market demand.”

Lenovo has implemented an aggressive strategy to replace Samsung as mainland of China market's top smartphone manufacturers. It has spent $793.5 million in order to build a plant in Wuhan that can produce 30 to 40 million phones per year. “Data from ‘Analysys International’ shows that Lenovo experienced considerable growth in smartphone sales in China during 2012. Specifically, it saw its market share increase to 14.2% during 2012's third quarter, representing an increase when compared to 4.8% in the same quarter of 2011.” The CEO of Lenovo, Yang Yuanqing, said, “Lenovo does not want to be the second player, we want to be the best. Lenovo has the confidence to outperform Samsung and Apple, at least in the Chinese market.”

In May 2013, Lenovo CEO Yang Yuanqing indicated that the company had aimed to release smartphones in the United States within the next year. Later in October, Lenovo voiced interest in making acquisitions of the Canadian smartphone maker BlackBerry Ltd.

In January 2014, Lenovo announced a proposed deal to acquire Motorola Mobility to strengthen plans of the U.S. market. “Microsoft officially announced that Lenovo became the hardware partner of Windows Phone platform at the Mobile World Congress 2014.”[2]

[2] Microsoft announces Motorola owner Lenovo as new Windows phone hardware partner

In January 2016, Lenovo announced at CES that the company would be producing the first Project Tango phone.

Lenovo Connect is a kind of services that Lenovo provides. In 2016, at the Mobile World Congress, Lenovo introduced Lenovo Connect, a wireless roaming service. This service works across devices, networks, and international borders in China, Europe, the Middle East, and Africa. Lenovo Connect removes the need to buy new SIM cards when crossing borders. Lenovo Connect started providing service for phones and selected ThinkPad laptops in China in February 2016.

3.5 Corporate affairs

A company's good development is inseparable from its management team, corporate culture and spirit of the brand. A company not only needs excellent technology, but also corporate culture is an indispensable factor. In this part, we will introduce the development of the Lenovo, corporate culture and its management team.

3.5.1 Corporate culture

Corporate culture, also known as a organizational culture, is an organization's unique cultural image composed of its values, beliefs, rituals, symbols, ways of doing things and etc.

Corporate culture is a kind of spiritual wealth and physical form that has characteristic of the company, created by production and operation and management activities under certain conditions. It includes cultural perceptions, values, spirits of enterprise, code of ethics, code of conduct, historical tradition, enterprise system, cultural environment and enterprise products. And values are the core of corporate culture.

"Terence ·E ·Deere, Alan ·A Kennedy, put the corporate culture of the whole theory system into (outlined) five elements, namely a corporate environment, values, heroes, cultural rituals and cultural networks."

Corporate culture is the soul of a corporate, and the inexhaustible motive force to promote enterprise development. It contains rich meanings. Its core is the spirit of enterprise and values. Values here are not generally refers to various cultural phenomenon in business management, but the enterprise or enterprises employees' values uphold when engaging in business activities.

Lenovo's corporate positioning is to develop, manufacture and market the most reliable, safe-to-use technology products. "Our success comes from tireless efforts to help customers increase productivity, improve quality of life".

Brand Spirit of Lenovo is high quality, innovation, international, corporate responsibility.

Lenovo's core values have four:

1.Customer success - is committed to customer's satisfaction and success.

2.Entrepreneurial innovation - the pursuit of speed and efficiency, focus on innovation that have influence on customers and companies.

3.Accurate and realistic - fact-based decision-making and business management.

4.Integrity - to establish relationships of trust and responsible.

The enterprise's tradition is that "Lenovo continues to seek a breakthrough in the traditional spirit of innovation and the IBM Personal Computing Division, Lenovo today has been extended, the new Lenovo is a global competitiveness of the IT giant."

Worldwide, Lenovo provides our customers the award-winning ThinkPad notebooks and ThinkCentre desktops, and are equipped with ThinkVantage Technologies this software tools, ThinkVision monitors and a range of PC accessories and options.

"*In China, Lenovo's PC product's market share reached 35.2%. Lenovo has ranked first continuously for ten years in China.*"

Source: *Q2 / FY2007, IDC data*

3.5.2 Management team

Lenovo Group's management team divides into many parts. Chairman and CEO is Yang Yuanqing, he is incumbent (the second) CEO.

Incumbent (The second) CEO: Yang yuanqing **[Picture 3.4]**

And Gianfranco Lanci is the CEO of Lenovo Group, Lanci leds all regions, PC business Group and enterprise business group, and is responsible for the business end to end (service management), he will also continue to serve as chief operating officer of Lenovo Group. Lanci joined in Lenovo Group in April 2012, has 30 years' work experience in the PC business, he once worked in Texas Instruments Inc. and Acer served as leadership positions.

PC Enterprise Business Group and Business Group (PCG & EBG) Executive Vice

President and Chief Operating Officer is Gerry Smith, he reported to Lanci, he is responsible for two core business areas' growth and profitability improvement, at the same time, Smith is responsible for leading two core business's global operations team.

Other members of the leadership team (PC business group and enterprise business group), they will report to Smith.

Senior Vice President, there is Jay Parker, responsible for enterprise business group. Tom Shell, responsible for the PC business group. Jia Zhaohui is responsible for global operations PC business and enterprise business.

Senior Vice President and Chief Information Officer is Zhou Qingtong.

MBG Co-President is Aymar de Lencquesaing and Chen Xudong.

3.6 Achievements of Lenovo Group

In this part, we will introduce achievements of Lenovo Group, including technological innovation, brand value.

August 27, 2002, by the association of independent research and development operations per second speed of 1.027 trillion times "Deepcomp Lenovo 1800" computer by the expert group includes six academicians; in 2003, the national network of 863 Lenovo bid grid master node, the successful production of more than four trillion operations per second speed "Deepcomp 6800" supercomputer by the national Science and Technology as the results of 863 major projects in foreign release. In November 16, 2003 announced the global top 500 supercomputers (TOP500) list, “Deepcomp 6800” computational speed among 14 worldwide. December 2002, the first Legend World (Legend Technology Innovation Conference) was held in Beijing, Lenovo officially launched the “associated application strategy.” July 31, 2003 Lenovo Science and Technology Tour 2003 (Lenovo Tech Show) in the “Pearl of the Orient” Shanghai successfully set sail tour through major cities nationwide thirties. Fiscal year 2002 (April 1, 2002 to March 31, 2003), the Lenovo Group, a total of 572 national patent applications, including patents accounted for more than 50%, was awarded the State Intellectual Property Office and the National Technological innovation has most corporate intellectual property, and initially formed with independent intellectual property core technology system. September 2002, Lenovo with advanced quality management awareness and excellent quality management, won the “National Quality Management Award”, is only six winning units of IT companies.

In 2008, the US “Fortune” magazine published the top 500 global companies list display, Lenovo Group as the fourth-largest computer manufacturer in the world for the first time on the list, ranked 499, the annual income of $ 16.788 billion.

2013, Lenovo was awarded the China Brand Value Research Institute, Central National Census Commission, focus of China 2013 annual net jointly issued by China’s top 500 brands.

2014, China top 500 private enterprises ranked second.

2014, Lenovo finalist World Brand Lab prepared in 2014 (eleventh) “World Top 500 Brands” list.

4 Financial analysis of Lenovo Group Ltd

In this chapter, we will provide financial analysis of Lenovo Group Ltd. And we will use the methods we have already introduced in chapter 2 to analyze. All the analysis is from data of Lenovo Group Ltd through 2011 to 2015 period. We will use common-size analysis and financial ratio to analyze. After financial analysis, we can be clearly aware of the financial performance of Lenovo Group Ltd in industry and we can roughly predict its future development. All calculations carried out based on data.

4.1 Common-size Analysis

Common-size analysis is of financial statements data and their changes over the time. By definition, the two variables of the same type as a percentage in the form of analysis, such as the balance sheet, the items on the asset side compared to the total assets, you can get a percentage of total assets constituted. Its aim is to identify the trends and major differences.

Common-size analysis can be divided into two parts, horizontal common-size analysis and vertical common-size analysis.

4.1.1 Vertical common-size analysis

Vertical analysis (also known as common-size analysis) is a popular method of financial statement analysis that shows each item on a statement as a percentage of a base figure within the statement. It shows analysis of changes in the proportions of selected benchmarks (total revenues, total assets, total liabilities, etc.)

Firstly, we will see we the short version balance sheet of Lenovo Group Ltd.

To do a vertical analysis of balance sheet, the amount of assets, liabilities and equity are generally used as the base, and others, such as currents assets, fixed assets, current liabilities, other liabilities and shareholders' equity will be shown as a percentage of each part.

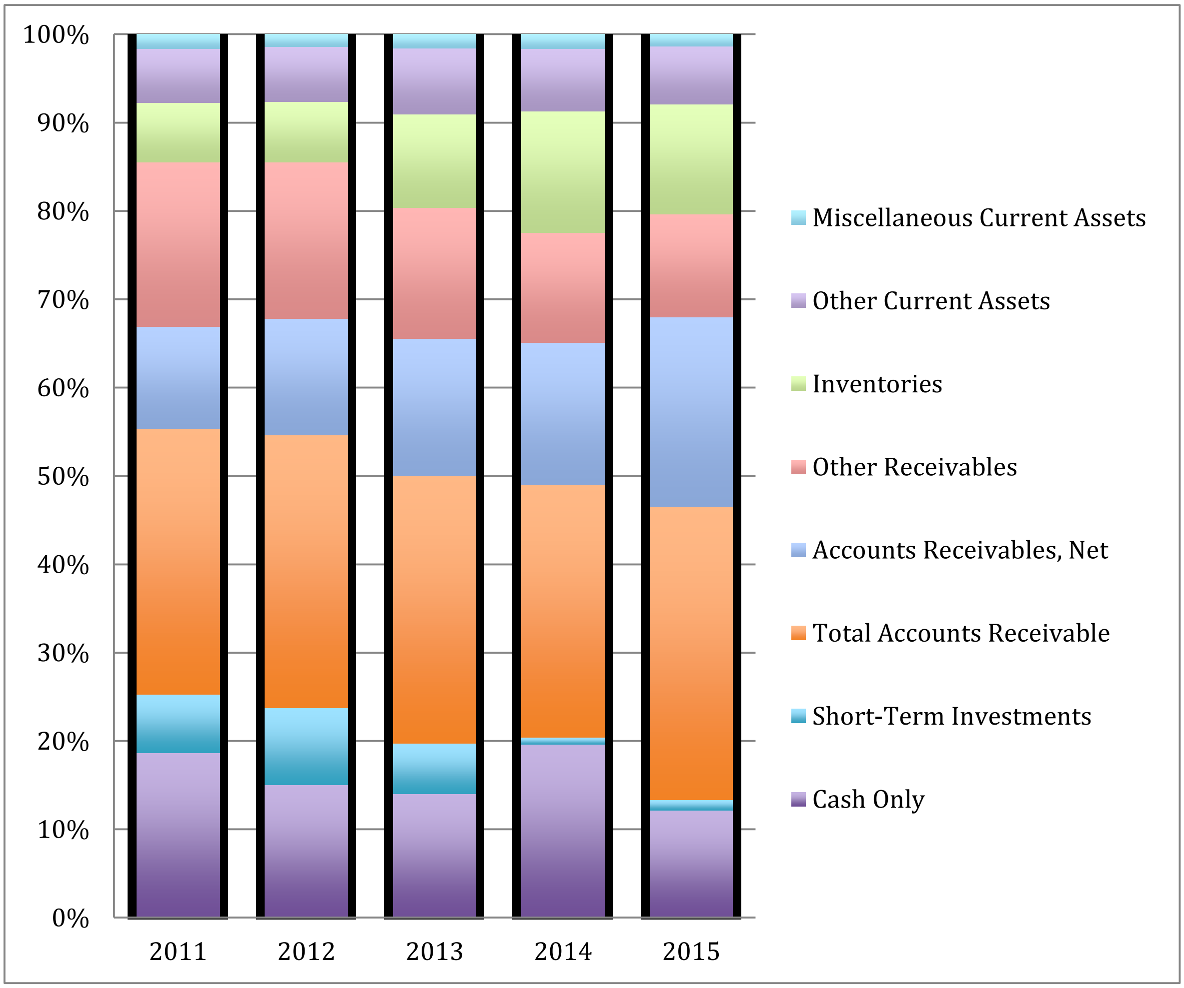
Comparing to horizontal common-size analysis, vertical analysis focus more on structure analysis of each project.

The table below is data from balance sheet. We put it into five parts: current assets, fixed assets, current liabilities, other liabilities and shareholders' equity.

Table 4.1 Data from balance sheet of current assets

YEAR	**2011**	**2012**	**2013**	**2014**	**2015**
(All values HKD millions)					
Cash & Short Term Investments	23410	32870	28510	31140	24890
Cash Only	17290	20820	20260	29930	22680
Short-Term Investments	6130	12060	8250	1210	2219
Total Accounts Receivable	27870	42760	43820	43610	61810
Accounts Receivables, Net	10650	18280	22400	24600	40140
Other Receivables	17230	24480	21420	19010	21660
Inventories	6250	9460	15250	20950	23220
Other Current Assets	5700	8640	10850	10770	12230
Miscellaneous Current Assets	1500	1970	2280	2530	2570
Total Current Assets	**63230**	**93740**	**98430**	**106470**	**122150**

Chart 4.1 Vertical analysis of current assets



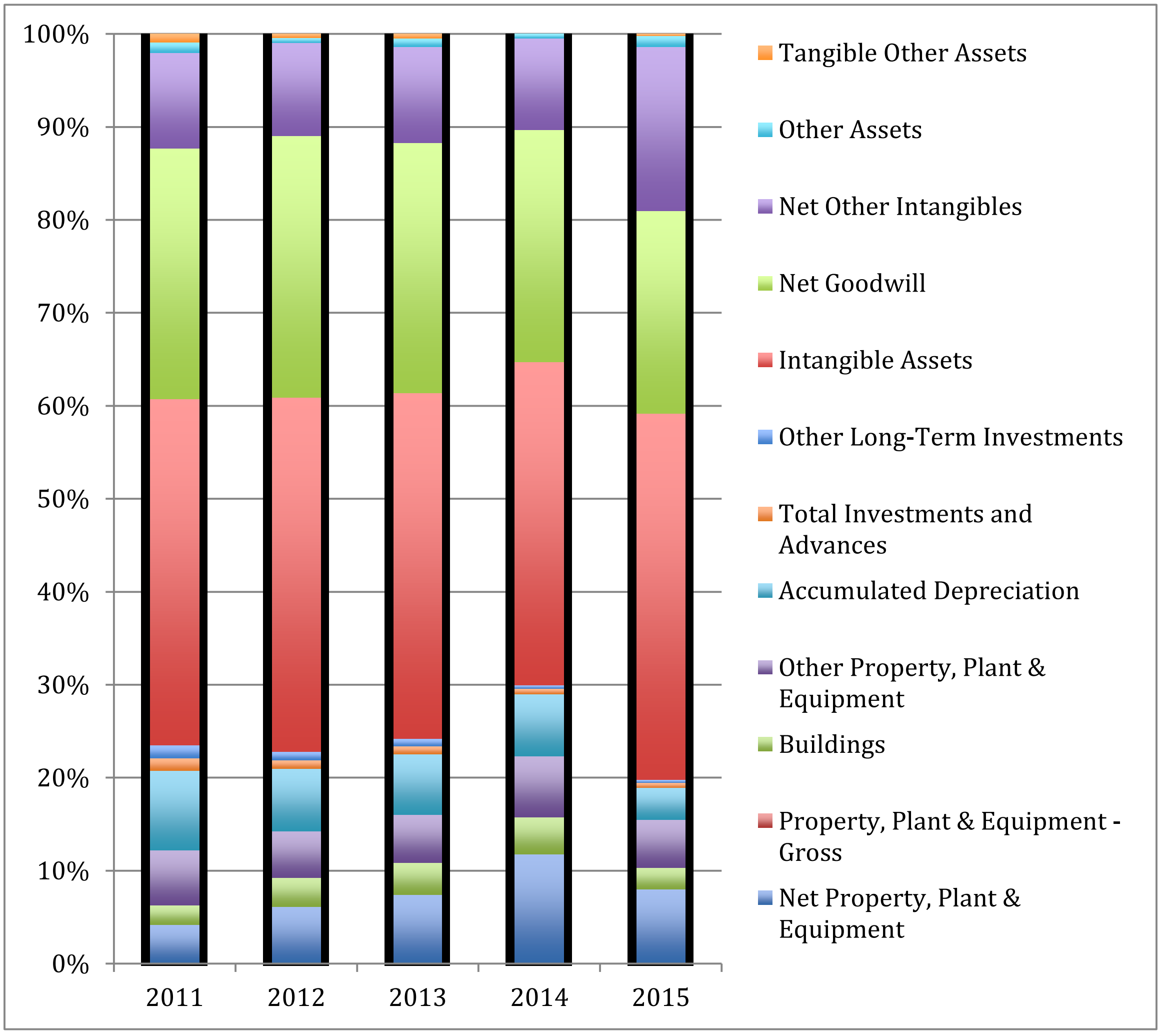
In chart 4.1, we can easily find that each term's proportion in current assets. We can see that cash and accounts receivables play big parts in it. Cash's proportion decreased during 2011~2013, but it increased a lot during 2013~2014, it is a big amount in 2014, generally about 29930 millions HKD dollars. About accounts receivables, it keeps a stable growth speed and become larger and larger, in 2015, it reaches about 40140 millions HKD dollars and became the biggest proportion in current assets. Inventories and other receivables also play a big part in current assets.

This below table 4.2 is data of Lenovo Group's fixed assets from balance sheet.

Table 4.2 Data from balance sheet of fixed assets

YEAR	2011	2012	2013	2014	2015
(All values HKD millions)					
Net Property, Plant & Equipment	1880	3850	5150	8770	14020
Property, Plant & Equipment - Gross	5670	8080	9670	13730	20020
Buildings	920.74	1960	2390	2970	4110
Other Property, Plant & Equipment	2650	3170	3600	4880	9080
Accumulated Depreciation	3790	4220	4510	4960	6000
Total Investments and Advances	619.17	585.06	564.54	433.7	923.54
Other Long-Term Investments	612.06	558.59	543.09	272.71	569.07
Intangible Assets	16600	24000	25820	25900	69230
Net Goodwill	12020	17710	18660	18540	38180
Net Other Intangibles	4580	6290	7160	7370	31050
Other Assets	488.58	348.09	620.24	317.14	2060
Tangible Other Assets	413.27	242.87	336.73	-	319.36

Chart 4.2 Vertical analysis of fixed assets



In chart 4.2, it is clear that net goodwill plays a huge part in fixed assets. Goodwill is a company's integrity, credibility, reputation, etc., it can bring additional revenue to enterprises. It is a form of intangible assets, the same effect as the brand. Enable businesses to appreciate. Net other intangibles also have a big proportion. About tangible assets, buildings and net property, plant & equipment account for a certain proportion, and they have a stable increase. Other terms in fixed assets do not have many changes.

From this chart, we can easily find that intangible assets are very important in

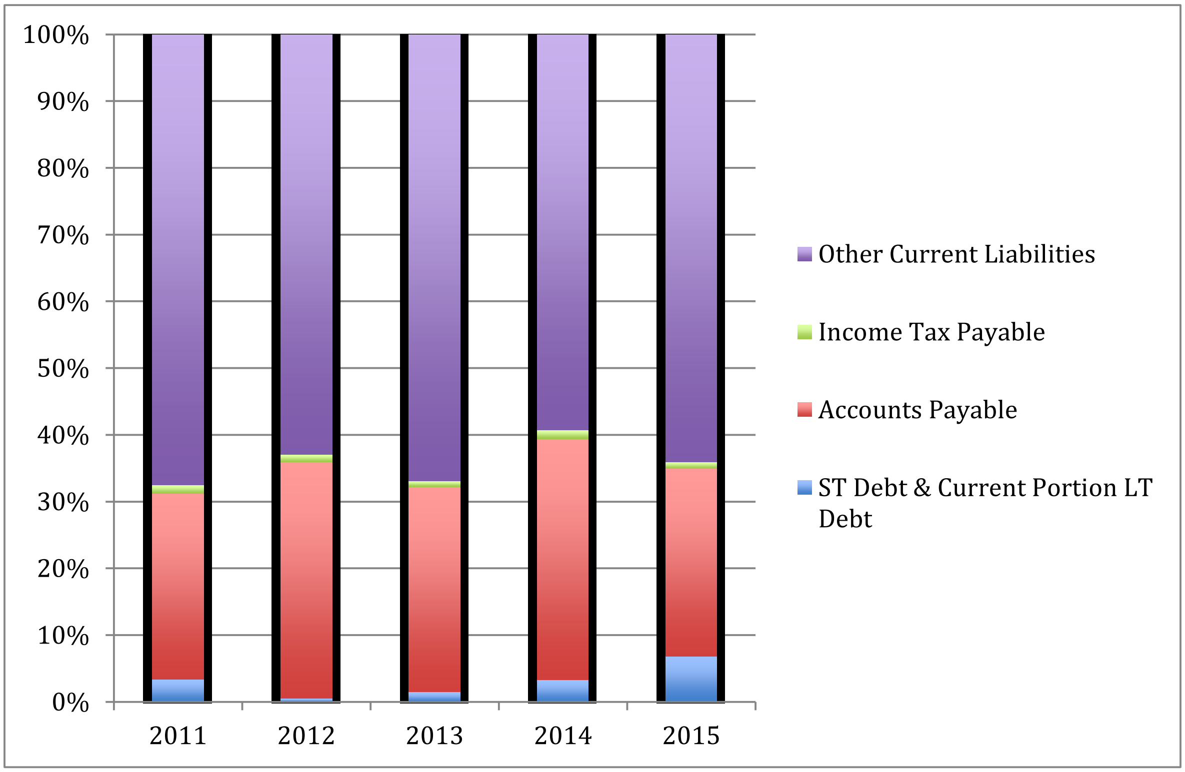
Lenovo Group and they have a big amount.

The below table is data of liabilities and shareholders' equity from Lenovo Group's balance.

Table 4.2 Data from balance sheet of liabilities and equity

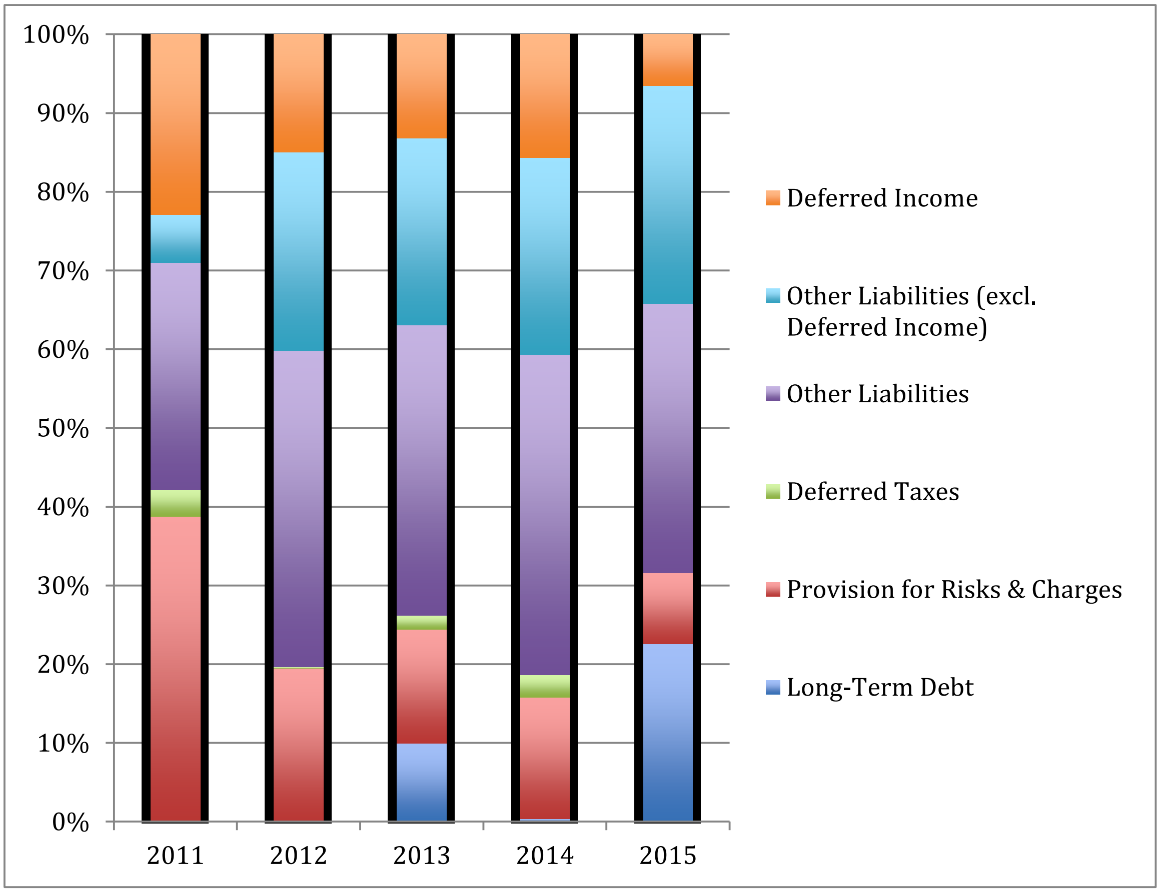
YEAR	**2011**	**2012**	**2013**	**2014**	**2015**
(All values HKD millions)					
ST Debt & Current Portion LT Debt	2110	488.76	1360	3460	9060
Accounts Payable	17270	32430	28910	37700	37470
Income Tax Payable	752.24	1050	777.65	1380	1310
Other Current Liabilities	41890	57710	62810	61900	85210
Total Current Liabilities	**62480**	**91690**	**93860**	**104430**	**133050**
Long-Term Debt	**0**	**0**	**2350**	**78.54**	**14620**
Provision for Risks & Charges	**3660**	**3850**	**3440**	**3360**	**5830**
Deferred Taxes	**316.81**	**31.42**	**427.08**	**608.06**	**11.63**
Other Liabilities	**2730**	**7950**	**8750**	**8840**	**22140**
Other Liabilities (excl. Deferred Income)	**575.4**	**4980**	**5620**	**5440**	**17890**
Deferred Income	**2160**	**2960**	**3130**	**3400**	**4250**
Total Liabilities	**69000**	**104140**	**109290**	**117820**	**177210**
Non-Equity Reserves	-	-	953.57	1120	917.74
Accumulated Minority Interest	1.39	673.4	105.09	113.188	174.27
Total Shareholders' Equity	14270	18330	20700	23350	31660
Total Equity	**14270**	**19010**	**20810**	**23460**	**31830**
Liabilities & Shareholders' Equity	**83270**	**123140**	**131050**	**142400**	**209960**

Chart 4.3 Vertical analysis of current liabilities



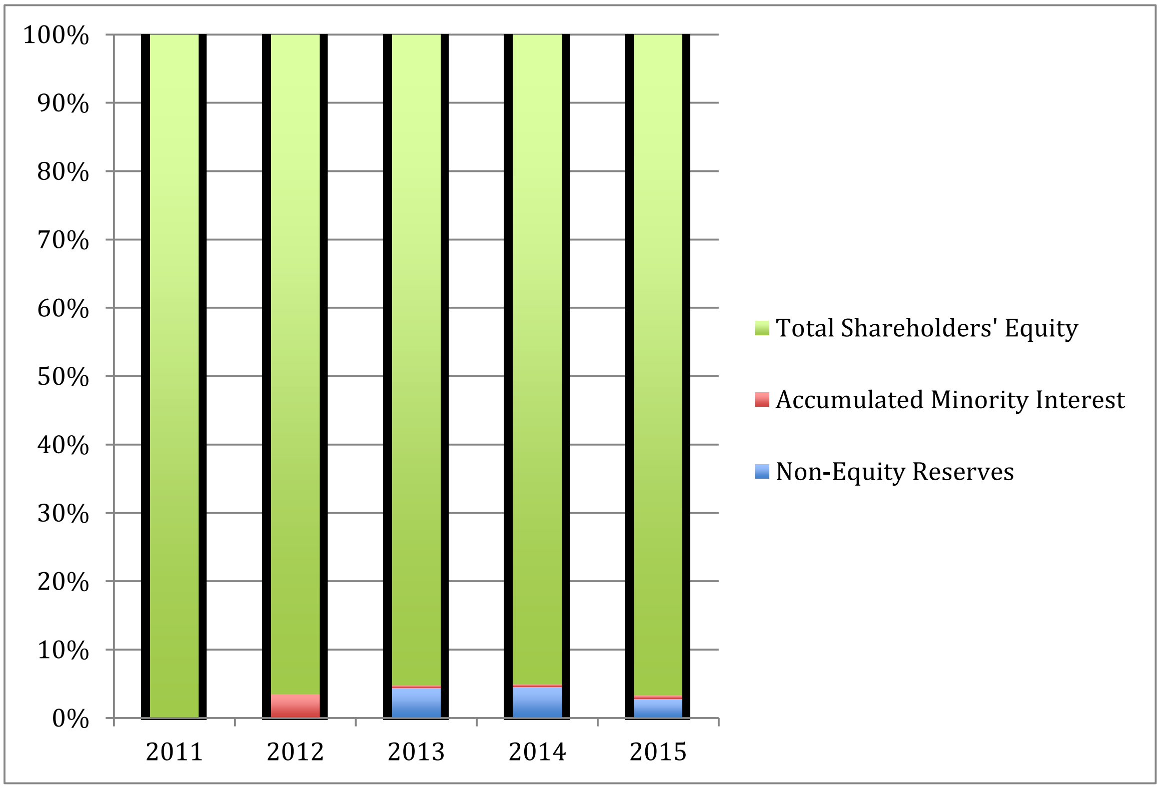
Here is the proportion of current liabilities. Other current liabilities have a large amount, but its proportion dropped in 2012 and 2014. Its proportion increased almost 8%~9% in 2013, increased 5% in 2015. Accounts payable's proportion during 5 years, is most in 2014, but decreased in 2015. The reason maybe: 2013, Lenovo PC sales rose to first in the world, Availability is too small, there may be a shortage of fixed assets, liabilities, accrued expenses and other payables accrued expenses may be increased. The proportion of ST debt & current portion LT debt has been increasing during 2012 to 2015. The reason maybe: 2013, Lenovo PC sales rose to first in the world, Availability is too small, there may be a shortage of fixed assets, liabilities, accrued expenses and other payables accrued expenses may be increased.

Chart 4.4 Vertical analysis of other liabilities



In chart 4.4, it is vertical analysis of other liabilities. We can find that terms in other liabilities changed a lot during 2011 to 2015. For example, long-term debt in 2011 and 2012 is 0%. In 2013, it increased to about 10%. But it decreased to almost 0% again in 2014. Finally, it has a large increase in 2015. The proportion of deferred income and provision for risks & charges kept reducing, but provision for risks & charges play a big part in 2011, it was the biggest amount between these terms. Other liabilities' proportion has been the biggest one since 2012 and it has a large proportion.

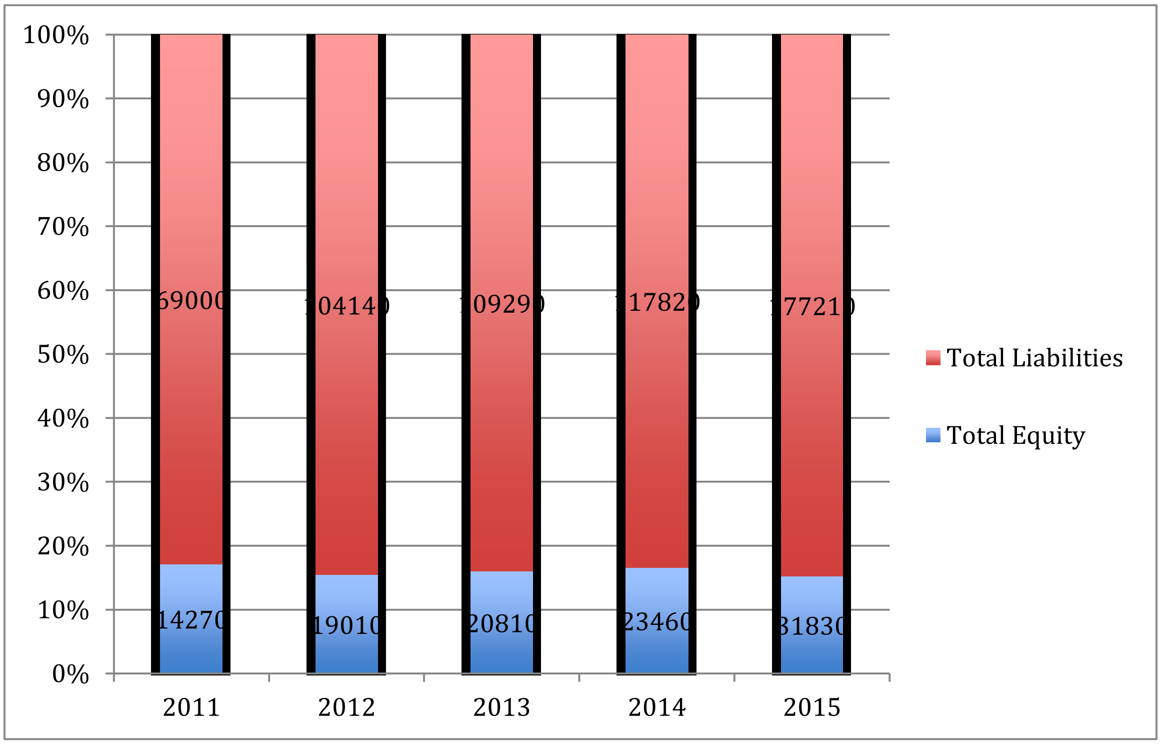
Chart 4.5 Vertical analysis of equity



From this chart, it is so clear that shareholder's equity plays almost the biggest part in total equity and it is almost 95% to 100%. Accumulated minority interest increased in 2012, then it decreased in 2013 and kept almost the same proportion during 2013 to 2015. Non-equity reserves are almost 0% in 2011 and 2012, but it increased to 5% in 2013. 2012, income is not low, but also there are lots of expenses, so profits become less.

Finally, we will put total liabilities and shareholders' equity together to compare these two terms. Below is the chart of the comparison.

Chart 4.6 Comparison of liabilities and shareholders' equity



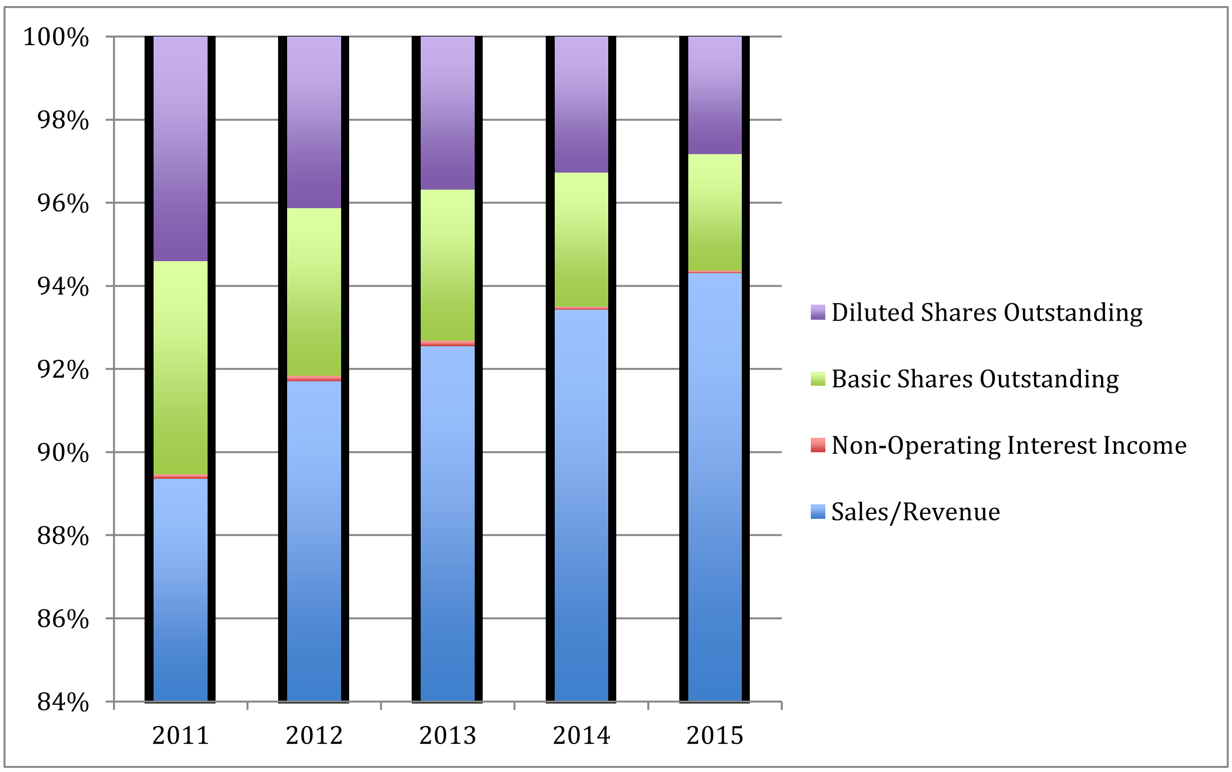
Liabilities (debt) represent the obligations of a company and equity represents the portion of capital belonging to owners or shareholders of a company.

We can see from chart, the liabilities account for almost 80%~85%. Liabilities must be a current obligation of the enterprise. High liabilities can gain advantage of leverage for the company, but it also with high risk. The proportion of these two did not have much change, so it shows that both of liabilities and equity are increasing steadily.

If liabilities and owners' equity increased marginally, the asset growth rate is not large. Description company did not increase lending, no increase in investment projects; stable operating profit rose marginally.

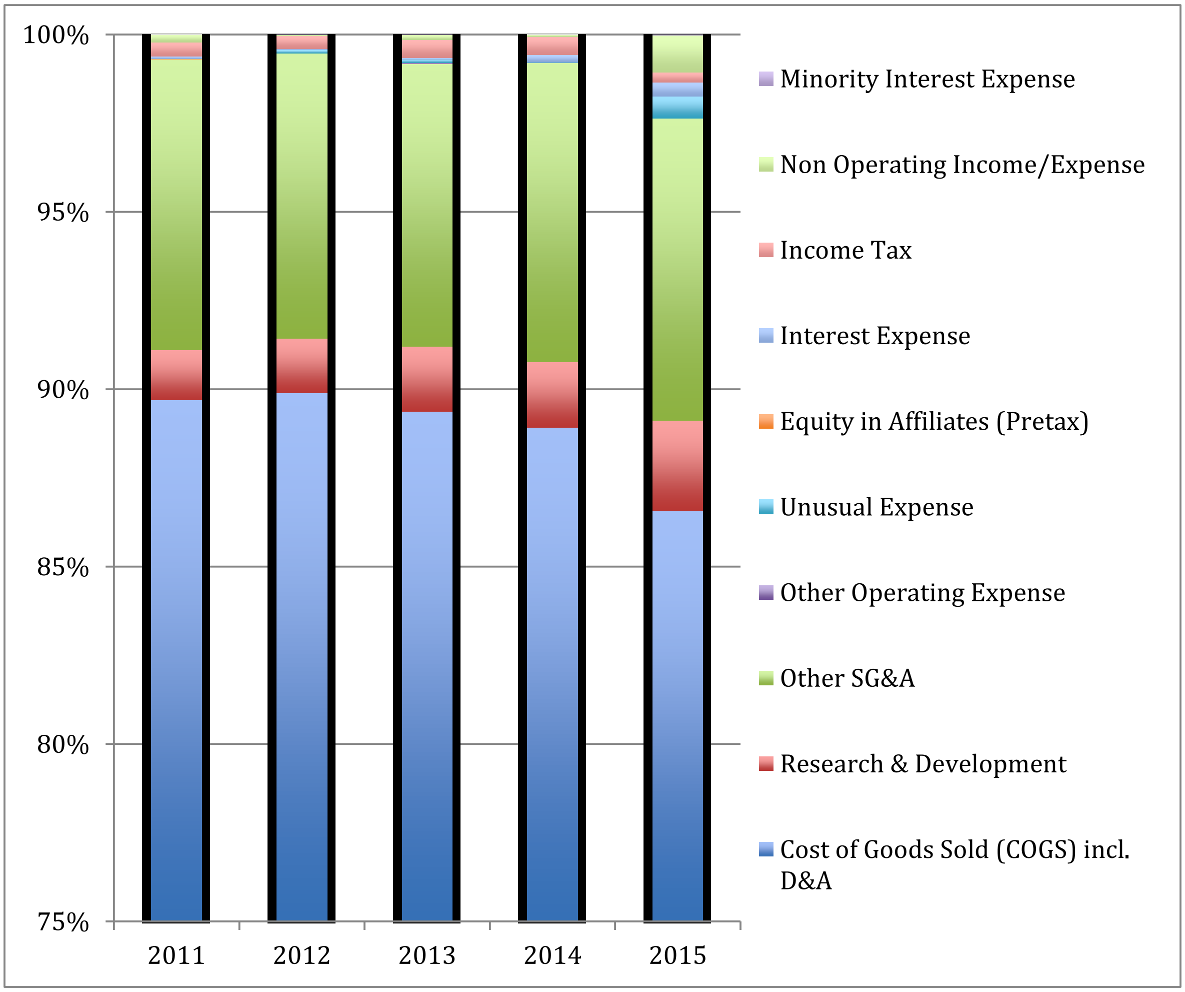
Then we will analyze the income statement, the table below is short version of income statement. The below table is the data of Lenovo Group's income statement. The data is between 2011 and 2015.

Chart 4.7 Vertical analysis of income (revenues)



From chart 4.5, we can see that sales/revenue account for the most part in income. And it keeps a growing trend during 2011 to 2015. It reached almost 94% in 2015. Two shares also play big parts. But trend of them are decreasing. Non-operating interest income accounts for a very little part. We can easily know that income of Lenovo Group almost come from sales. By means of selling products and services.

Chart 4.8 Vertical analysis of expenses



We can see that there are various categories in expenses. Among them, it is clear that cost of goods sold accounted for the most proportion absolutely. In 2011, its proportion is almost 90%. The second amount is other SG&A, it is almost 6%~7%. Research & development's proportion dose not have too much change, but there is a small level of growth, about 2%~3%. Other operating expenses and minority interest expense are almost the smallest amount.

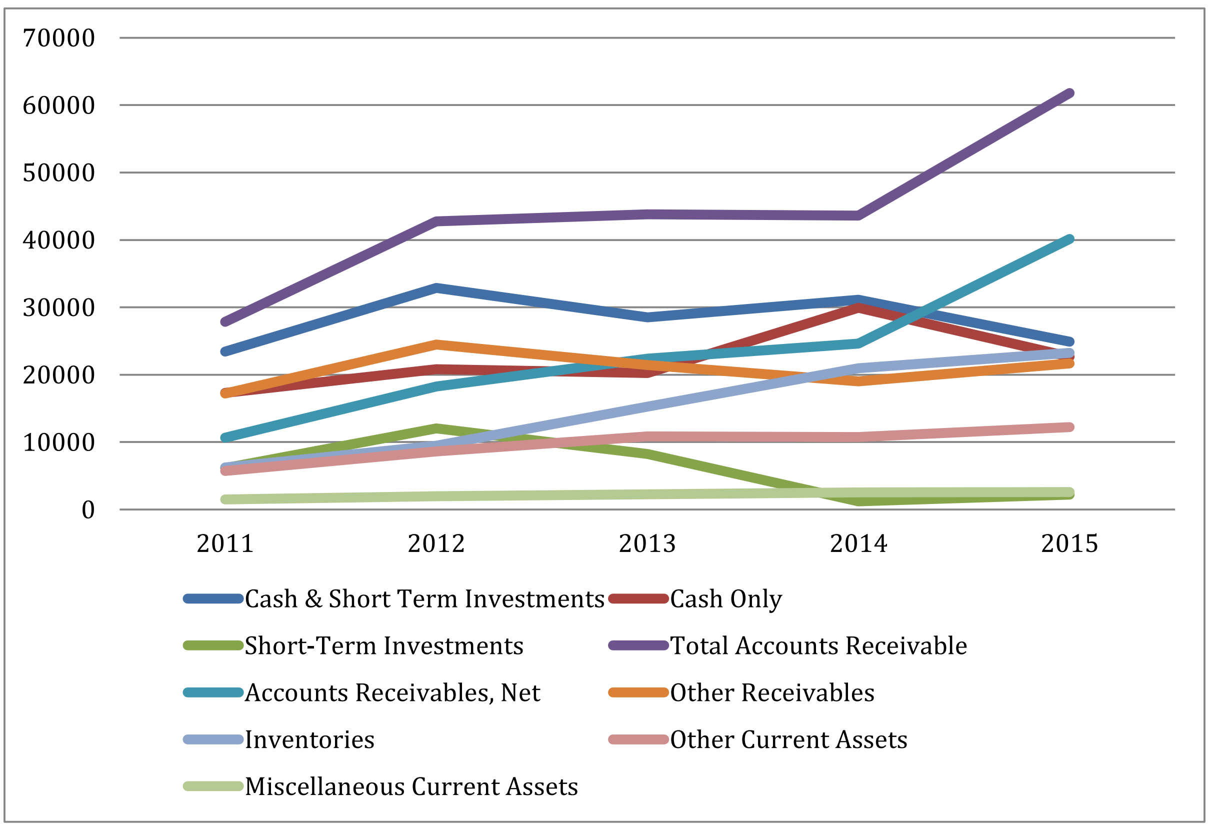
4.1.2 Horizontal common-size analysis

Horizontal common-size analysis, refers to the reporting period reflect the financial status information (financial statements information) with the previous history or financial situation of a given period reflect comparative information, the study of changes in the development of enterprises operating results or financial condition a financing method for the analysis of the situation.

The horizontal common-size analysis will make 2011 be the based data. We will analyze the change of balance sheet and income statement. Data of analysis is from balance sheet and income statement.

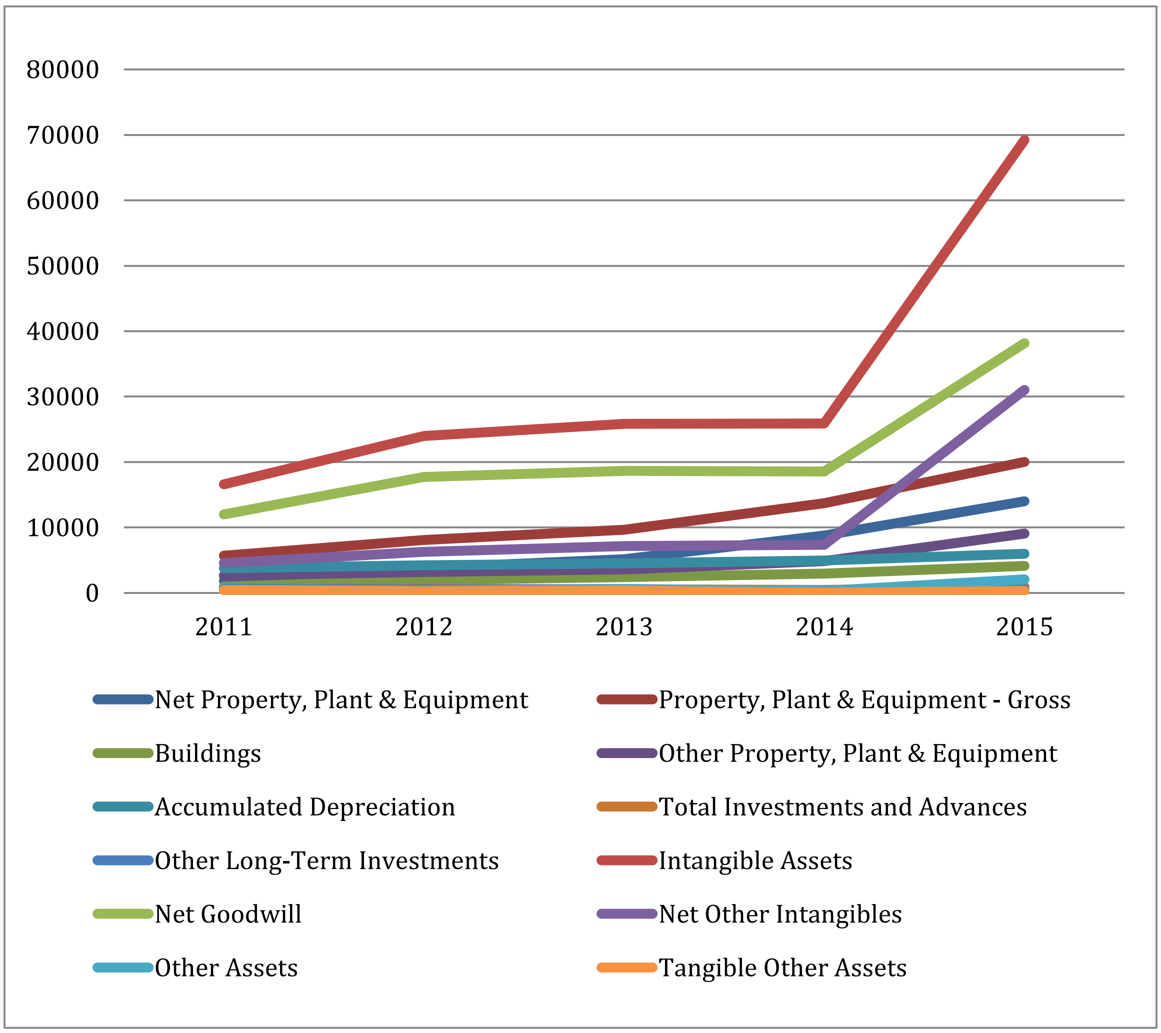
First, we will analyze the balance sheet with the methodology of horizontal common-size analysis.

Chart 4.9 Horizontal common-size analysis of current assets (All values HKD millions)



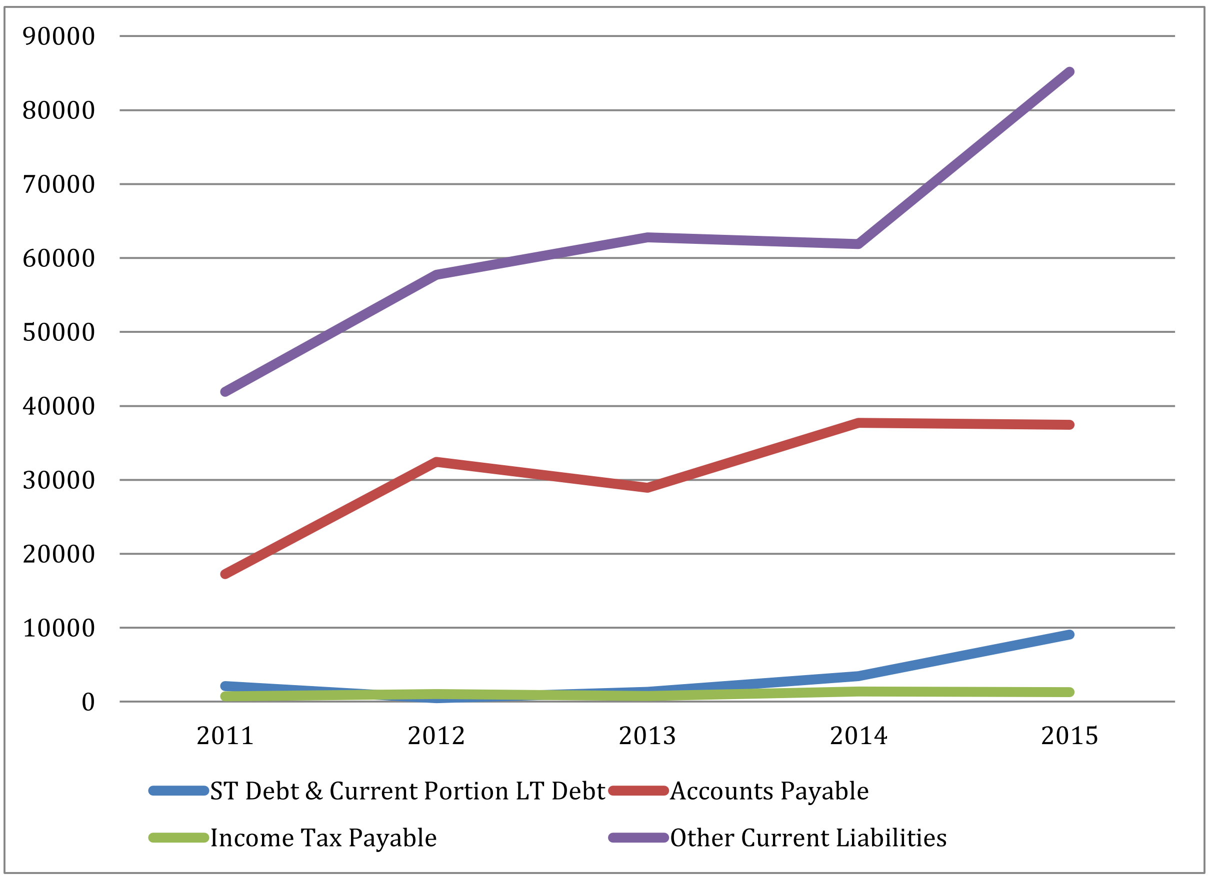
The chart 4.9 shows the growth trend of current assets. Y-axis is the amount of current assets, values HKD millions. X-axis is the period, five years. Most of these terms, their increasing is during 2011 to 2012. Accounts receivable's most increasing is between 2014 and 2015. Cash increased a lot during 2013 to 2014, then, in 2014-2015, it decreased. Short-term investments kept decreasing from 2012 to 2014. Inventories kept growing steadily and did not decrease. Other terms, like miscellaneous current assets and other current assets have been very smooth during this period.

Chart 4.10 Horizontal common-size analysis of fixed assets (All values HKD millions)



In chart 4.10, we see the change and trend of fixed assets. The property, plant & equipment have been increasing during 2011 to 2015, and have a large increase in 2014-2015. Net other intangibles and net goodwill did not have a big change. During 2011-2014, they were stable. But in 2014-2015, it increased a lot. And other terms all kept stable during this period, they did not have too obvious changes.

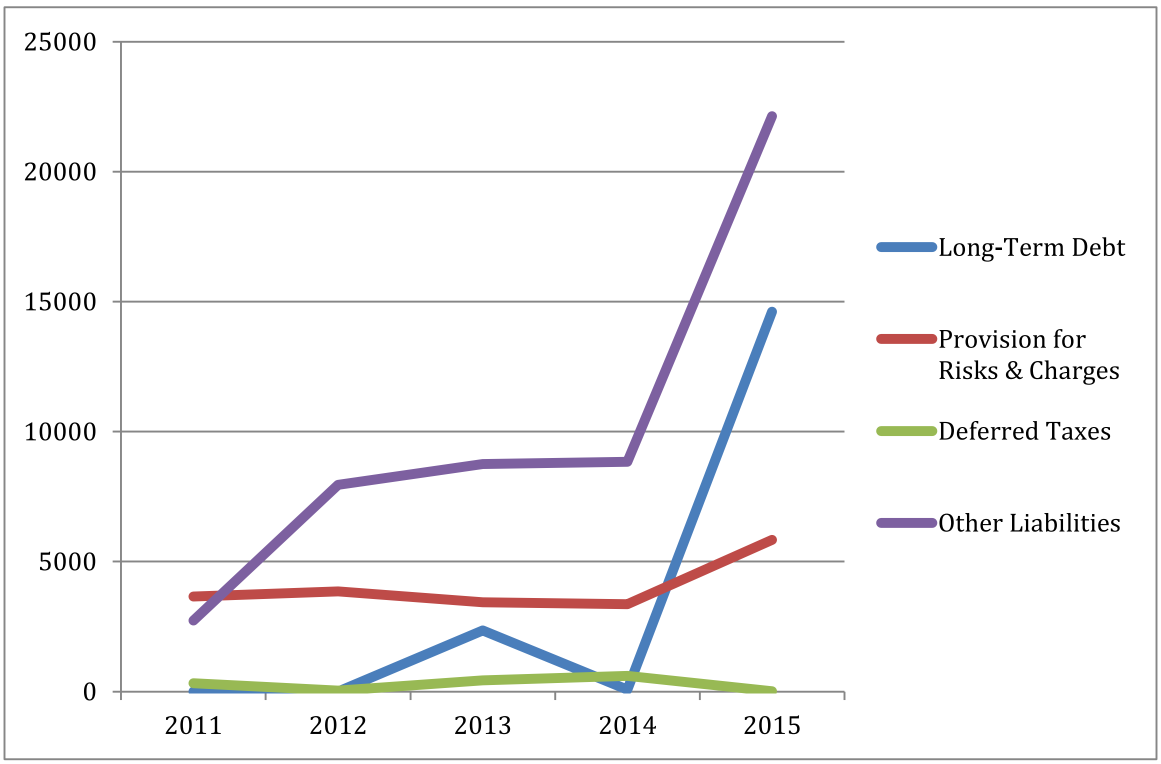
Chart 4.11 Horizontal common-size analysis of current liabilities (All values HKD millions)



In chart 4.11, we will analyze the current liabilities with horizontal common-size analysis. As we see, accounts payable increased in 2011-2012, decreased in 2012-2013, then it increased again in 2013-2014 and in 2014-2015, it was stable decreased a little. It was the most changed term.

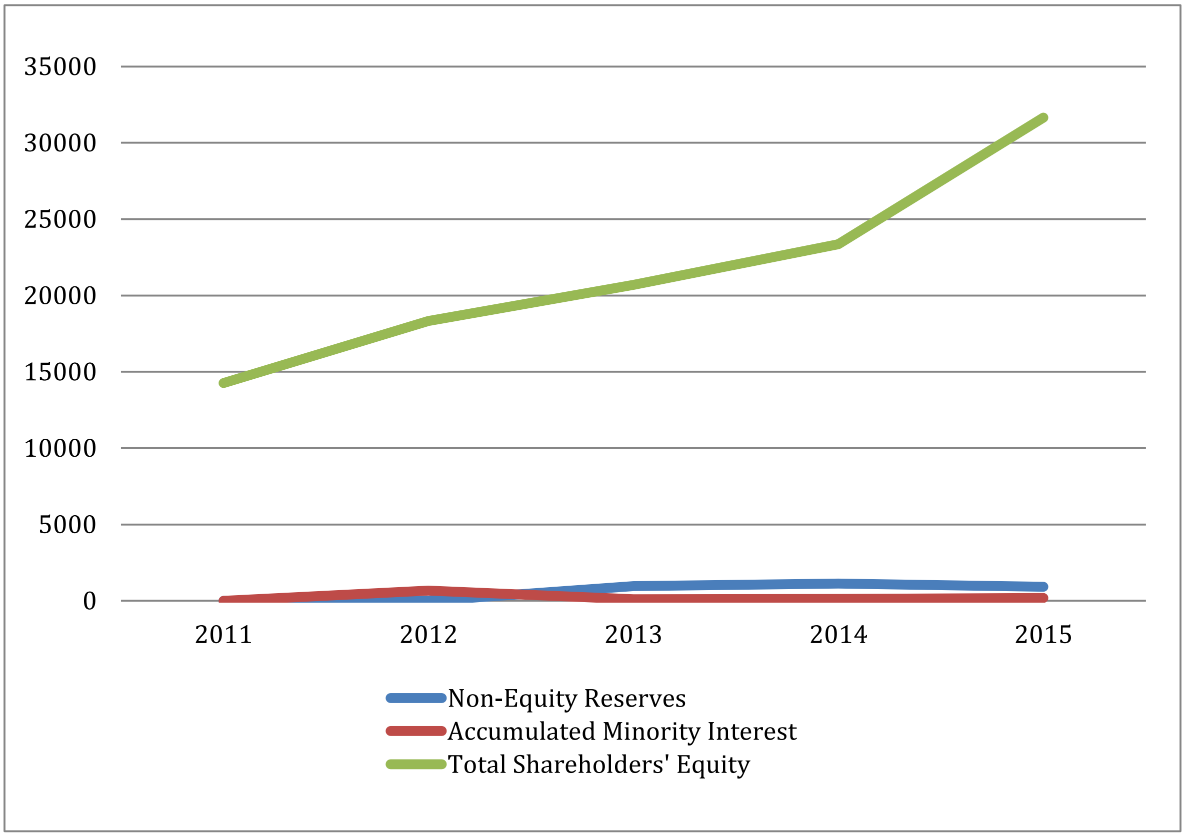
Other current liabilities kept a grow trend, in 2011-2012, increased a lot, in 2012-2014, the increasing range was small, but in 2014-2015, its increasing is large again. ST debt & current portion LT debt and income tax payable kept a slow increase, did not have much change.

Chart 4.12 Horizontal common-size analysis of other liabilities (All values HKD millions)



The chart 4.12 is the grow trend of other liabilities. We see, long-term debt increased in 2012-2013, decreased in 2013-2014, finally, it increased a large amount in 2014-2015, almost 15000 millions. Other liabilities' trend is same as long-term debt, but it did not decreased and also increased a large amount during 2014 to 2015. Provision for risks & charges and deferred taxes did not have much changes, kept stable.

Chart 4.13 Horizontal common-size analysis of equity (All values HKD millions)

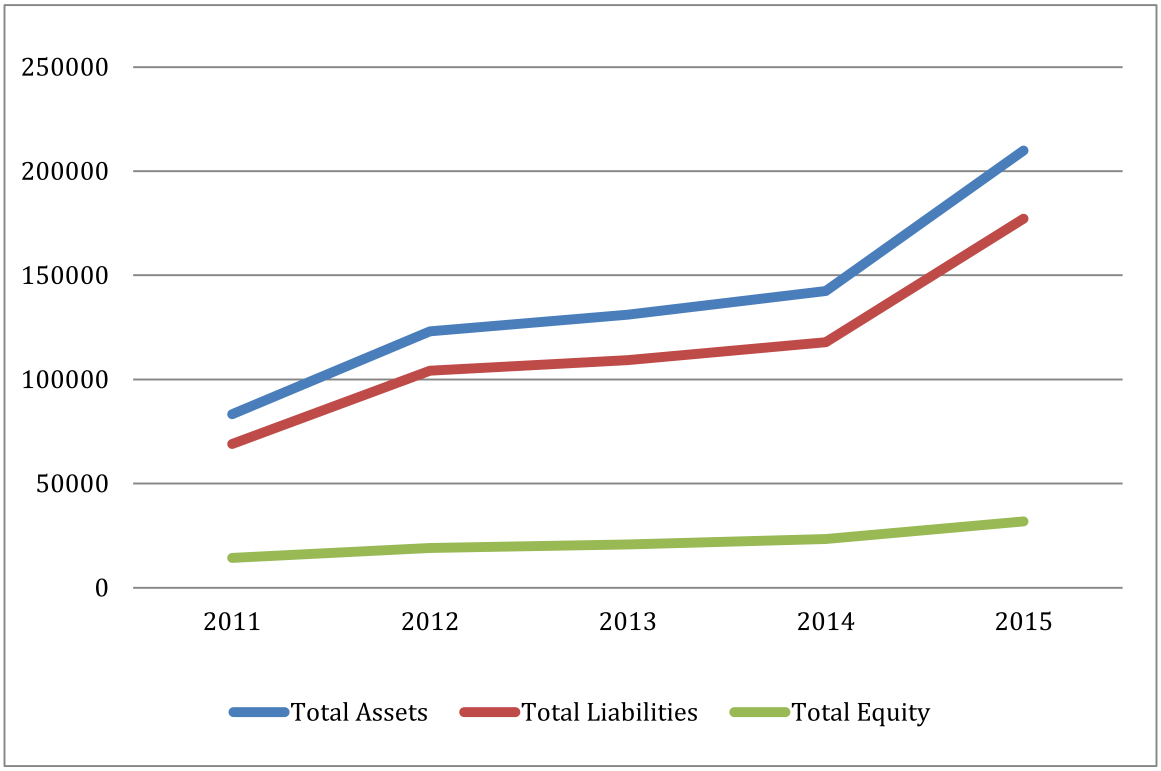


We can find in the chart, total shareholders' equity are more than non-equity reserves and accumulated minority interest, it kept increasing during 2011 to 2015, increased almost 18000 millions HKD. The other two did not have obviously changes.

"*According to Sina Technology News May 21, 2014 fiscal year revenue of $ 46.296 billion, up 20% , net profit attributable to shareholders of $ 829 million , an increase of 1.4%. Lenovo's fiscal year capital expenditure of 972 million US dollars, China accounted for 32% of overall Group's annual revenue*."

Source: http://www.askci.com/news/finance

Chart 4.14 Horizontal common-size analysis of balance sheet - assets, liabilities and equities (All values HKD millions)



The chart 4.14 shows changes of balance sheet during 2011 to 2015. We can see the trend of total assets and total liabilities were extremely the same. Both of them increased a lot in 2011-2012 and increased a little in 2012-2014. Then they increased a lot again in 2014-2015. Total equity kept a stable increase, did not change a lot during the period.

Lenovo Group today released as of 2014/15 fiscal year earnings March 31, 2015. The fiscal year revenues of $ 46.296 billion, up 20%, net profit attributable to shareholders of $ 829 million, an increase of 1.4%, basic earnings per share 7.77 cents (7.88 cents last year), diluted earnings of 7.69 US stocks cents (7.78 US cents last year). 2014/15 fiscal fourth quarter, Lenovo Group revenue of 11.334 billion yuan, an increase of 21 %, net profit attributable to shareholders of $ 100 million, down 36.7%, basic earnings per share 0.91 cents (1.53 US cents for the same period last year), US stocks diluted earnings of

0.90 cents (1.51 US cents for the same period last year).

Table 4.3 Absolute changes in balance sheet based on 2011 (All values HKD millions)

YEAR	**2012**	**2013**	**2014**	**2015**
(All values HKD millions)				
Currents assets	27560	2490	8120	14220
Other Current Assets	2940	2210	-80	1460
Total Current Assets	**30510**	**4690**	**8040**	**15680**
Long-term assets	9360	3220	3310	51880
Total Assets	**39870**	**7910**	**11350**	**67560**
Total Current Liabilities	29210	2170	10570	28620
Other liabilities	5930	2980	-2040	30770
Total Liabilities	**35140**	**5150**	**8530**	**59390**
Total Equity	**4740**	**1800**	**2650**	**8370**
Liabilities & Shareholders' Equity	**39870**	**7910**	**11350**	**67560**

The table 4.3 shows the absolute changes in balance sheet and the data of changes based on 2011. We can find all assets increased in addition to other current assets in 2014. Between 2013 and 2014, other current assets decreased 80 millions HK dollars. Because Lenovo did not have much short-term investments between 2013 and 2014, also the company's accounts receivables became less.

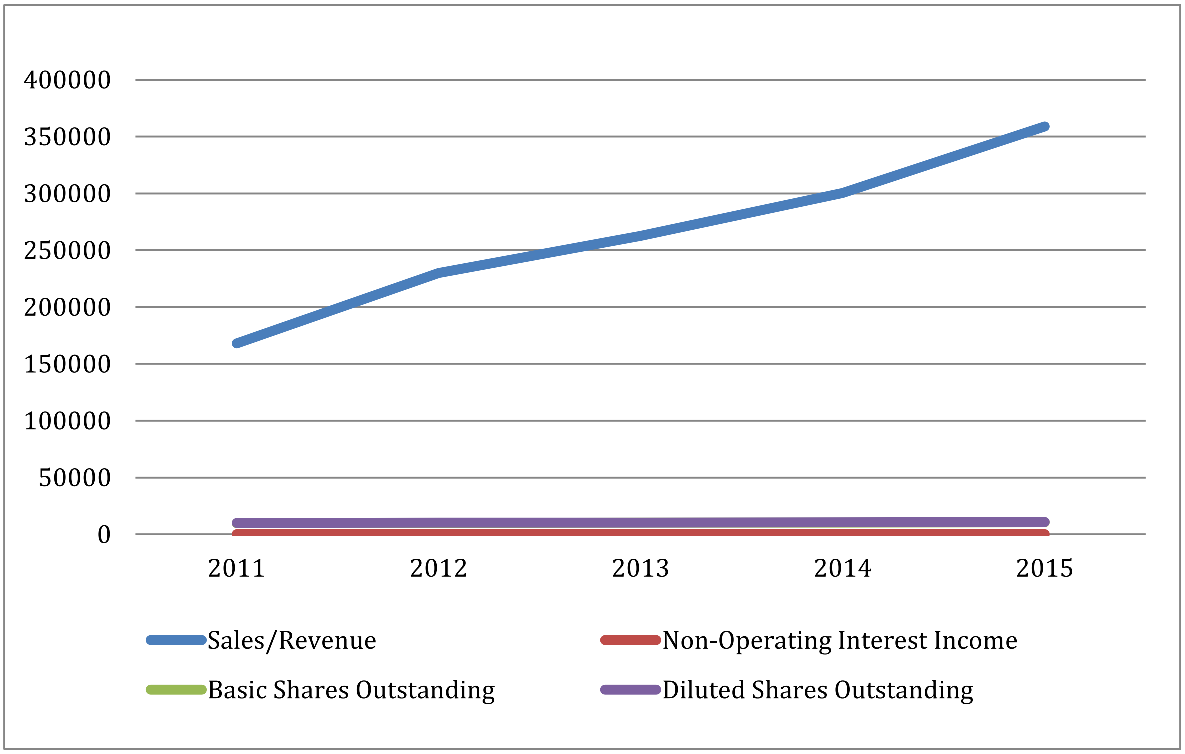
And we see other liabilities decreased during 2013 and 2014. Then total liabilities increased a huge amount during 2014 to 2015. The amount of total assets' increase were very large between 2011 and 2012, it is almost 39870 millions HK dollars. Then during 2014 to 2015, it increased the most amount, 67560 millions HK dollars, it was a huge amount.

Also, total liabilities and equity increased a large amount between 2014 and 2015, almost 67560 millions HK dollars, because they were equal.

Next, we will analyze income statement with horizontal common-size analysis.

First, we will see the chart of income and costs. Then we will analyze the growth trend and absolute changes of income and costs (also called revenues and expenses). All data based on Lenovo Group's income statement during 2011 to 2015.

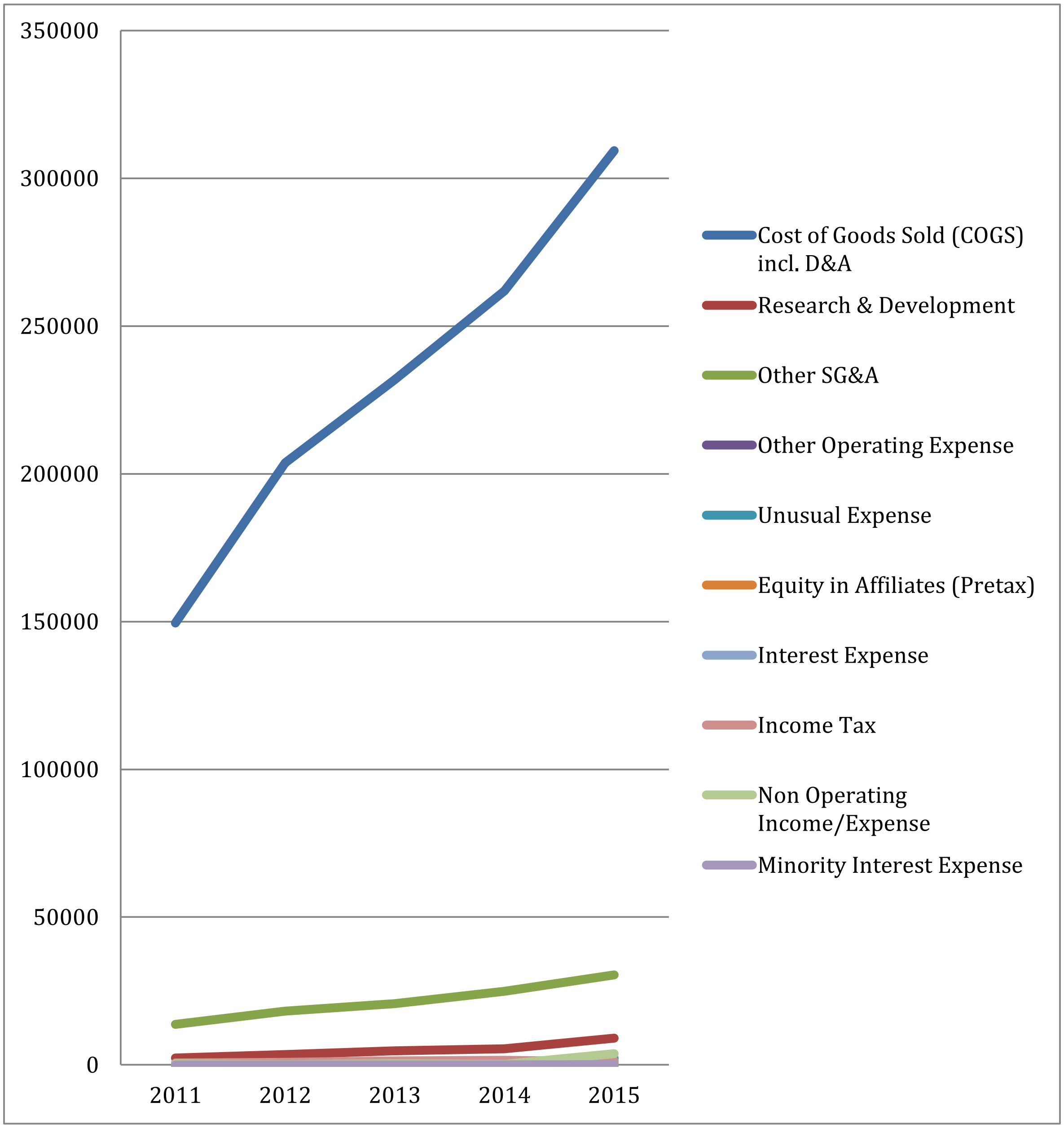
Chart 4.15 Horizontal common-size analysis of incomes (All values HKD millions)



In chart 4.15, we can clearly see that sales/revenues have the most amounts, about 175000 millions HK dollars to 350000 millions HK dollars from 2011 to 2015. Diluted shares and basic shares have small amounts comparing to sales, they were almost 10000 millions dollars, kept being almost the same amount during five years. Non-operating interest income is so small that we can not easily find it in the chart and it is about 200 millions HK dollars. So, we can draw a conclusion that the company's income almost came from sales and revenues.

Then is the chart of expenses, from income statement.

Chart 4.16 Horizontal common-size analysis of expenses (All values HKD millions)



We can find that the amount of expenses vary a lot in each term of expenses. Especially the cost of goods sold (COGS) including D&A. The cost of goods sold

(COGS) including D&A was the largest amount in expenses. So we can know that Lenovo Group's expenses almost came from costs of goods sold. And other SG&A also had a lot, it increased about 17000 millions HK dollars. In addition, other terms also had a small and stable increase.

Table 4.4 Data from income statement (All values HKD millions)

YEAR	2011	2012	2013	2014	2015
(All values HKD millions.)					
Revenues					
Sales/Revenue	167890	230020	262720	300270	358970
Non-Operating Interest Income	193.80	332.06	348.10	262.92	239.61
Basic Shares Outstanding	9630	10130	10310	10370	10670
Diluted Shares Outstanding	10150	10340	10460	10500	10770
Expenses					
Cost of Goods Sold (COGS) incl. D&A	149510	203770	231840	261970	309390
Research & Development	2360	3500	4790	5470	9020
Other SG&A	13670	18220	20670	24850	30460
Other Operating Expense	0	0	65.42	0	0
Unusual Expense	0	208.7	244.57	50.83	2190
Equity in Affiliates (Pretax)	1.75	6.62	5.57	0	0
Interest Expense	126.96	60.62	97.66	572.38	1380
Income Tax	657.08	832.43	1320	1530	1040
Non Operating Income/Expense	365.42	59.02	362.74	180.03	3750
Minority Interest Expense	0	18.85	27.58	1.88	61.16
Consolidated Net Income	2120	3700	4900	6340	6490
EBIT after Unusual Expense	-	4320	5610	7930	12290
Pretax Income	2780	4530	6210	7800	7400
Net Income	2120	3680	4930	6340	6430
EBITDA	3720	5900	6990	9960	14030

Table 4.5 Absolute changes in income statement based on 2011 (All values HKD millions)

YEAR	2012/2011	2013/2012	2014/2013	2015/2014
Revenues				
Sales/Revenue	62130	32700	37550	58700
Non-Operating Interest Income	138.26	16.04	-85.18	-23.31
Basic Shares Outstanding	500	180	60	300
Diluted Shares Outstanding	190	120	40	270
Expenses				
Cost of Goods Sold (COGS) incl. D&A	54260	28070	30130	47420
Research & Development	1140	1290	680	3550
Other SG&A	4550	2450	4180	5610
Other Operating Expense	0	65.42	-65.42	0
Unusual Expense	208.7	35.87	-193.74	2139.17
Equity in Affiliates (Pretax)	4.87	-1.05	-5.57	0
Interest Expense	-66.34	37.04	474.72	807.62
Income Tax	175.35	487.57	210	-490
Non Operating Income/Expense	-306.4	303.72	-182.71	3569.97
Minority Interest Expense	18.83445	8.73	-25.7	59.28
Consolidated Net Income	1580	1200	1440	150
EBIT after Unusual Expense	4320	1290	2320	4360
Pretax Income	1750	1680	1590	-400
Net Income	1560	1250	1410	90
EBITDA	2180	1090	2970	4070

From table 4.4 and 4.5, we can see the absolute changes in income statement. In revenues, non-operating interest income decreased during 2013 to 2015. In expenses, other operating expenses decreased 193 millions during 2013 to 2014. Income tax decreased a lot during 2014 to 2015, almost 490 millions HK dollars. And non-operating income/expenses and minority interest, both of them decreased in 2013-2014. But non-operating income/expense increased almost 3570 millions HK dollars. Other terms in expenses, kept a steadily increase.

4.2 Financial Ratio Analysis

Financial ratios can assess changes in an investment between annual revenue, you can also compare different companies at some point an industry. Financial ratio analysis can eliminate the influence of the scale used to compare the benefits and risks of different companies to help investors and creditors to make rational decisions.

Financial ratios analysis is calculated from financial data, ratios are a useful methodology of showing relationships. Not all financial ratios are useful and important to an analysis. We should find correct ratios to use in different analysis.

In this part, we will use the methodology and calculations that have been introduced and described in chapter 2. And this part will be put into five parts: profitability ratio of Lenovo Group, liquidity ratio, solvency ratio, activity ratio and pyramidal decomposition.

4.2.1 Profitability ratio

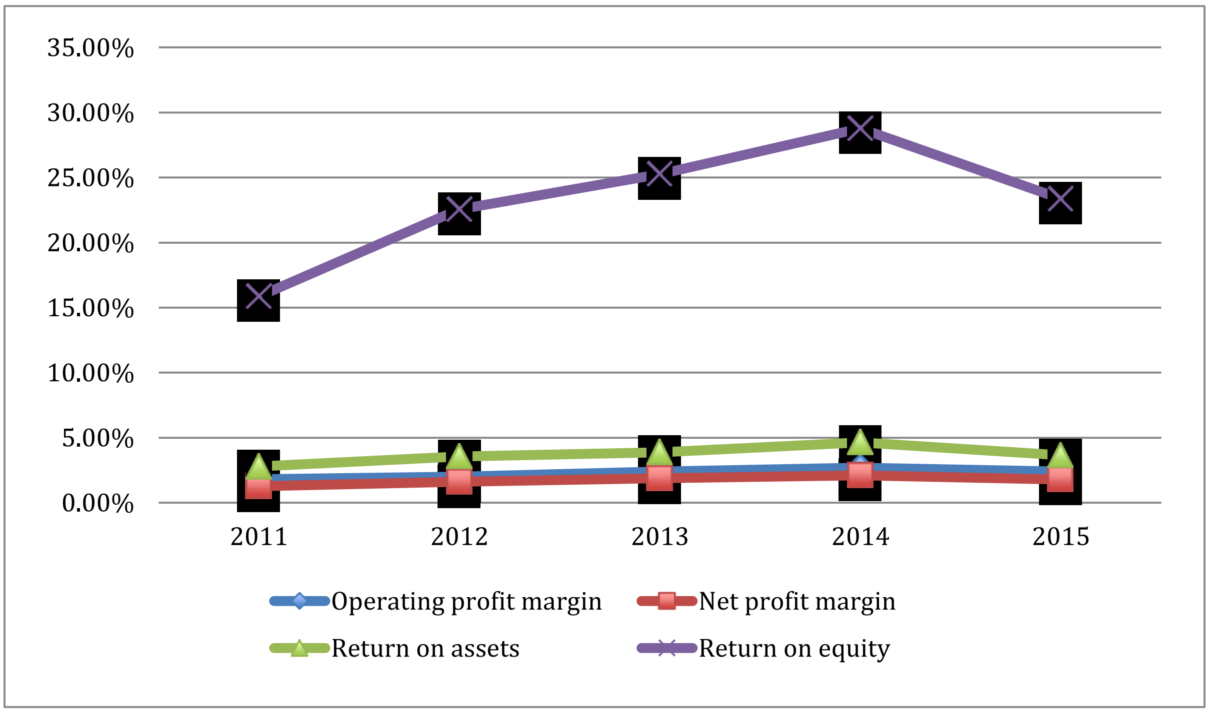
This ratio is to analyze the company's capability to generate profit from invested capital and show the equality of company's management.

Here is the table of profitability ratio.

Table 4.6 Profitability ratios of Lenovo Group

	2011	2012	2013	2014	2015
Operating profit margin	1.80%	2.00%	2.40%	2.70%	2.40%
Net profit margin	1.27%	1.60%	1.88%	2.11%	1.79%
Return on assets	2.78%	3.56%	3.88%	4.64%	3.65%
Return on equity	15.88%	22.55%	25.27%	28.79%	23.36%

Chart 4.17 Profitability ratios of Lenovo Group



From table 4.6 and chart 4.17, we can see the profitability ratios of Lenovo Group during 2011 to 2015. Return on equity (ROE) is less than 20% in 2011, but both in 2012-2015, they are more than 20%. Especially in 2014, it reached 28.79%. Return on equity keep increasing during 2011 to 2014, which means the profitability condition of Lenovo Group became better. But in 2015, it decreased a little, almost 5%. The ROE calculation we find in (2.15).

Operating profit (OPM) is also known as EBIT, it refers to the ratio of the operating profit and operating income. OPM formula is in (2.10). During 2011 to 2015, it remained at around 2%. In 2014, it reached almost 2.7%, it shows that Lenovo Group's sales offer is stronger. Same as ROE, OPM kept increasing stable during 2011 to 2014, decreased a little in 2015.

Net profit margin (NPM) shows the company's profit after tax per one unit of revenues, we can see from table 4.6 and chart 4.17, it kept increasing between 2011 and 2014 and reached to 2.11% 2014, it means that company during this period decreased their costs and get more net profit. In addition, it decreased during 2014 to 2015. We can find the formula in (2.11).

Return on assets (ROA) means net profit divided by company's assets, it shows a company's earned return on its assets, the ratio higher, income of assets is higher. We use the formula ROA (2.13) and (2.14). We can see from the table, in 2011-2012 and 2013-2014, return on assets ratio increased a lot, it means, during these two periods, company's income of assets were high and showed the better use of company's assets.

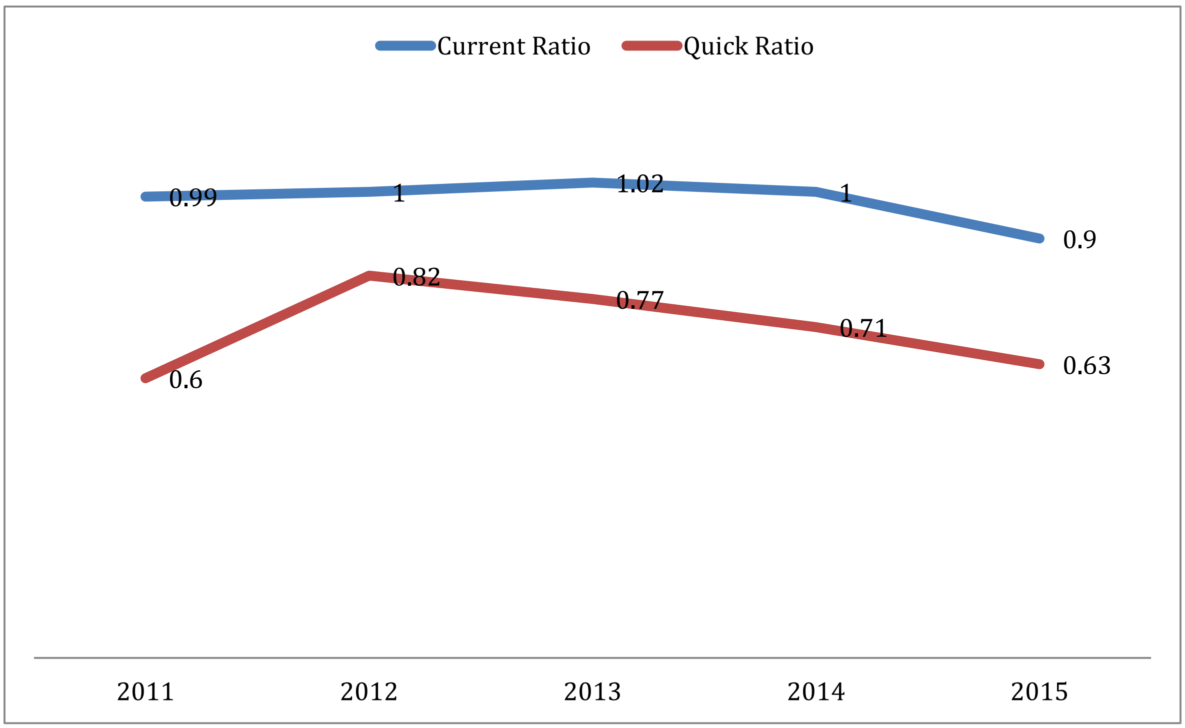
4.2.2 Liquidity ratio

Liquidity ratios analyze a company's ability to clear off its current liabilities, it means the company's cash levels. We will analyze two ratios of it: current ratio and quick ratio.

Table 4.7 Liquidity ratios of Lenovo Group

	2011	2012	2013	2014	2015
Current Ratio	0.99	1	1.02	1	0.9
Quick Ratio	0.6	0.82	0.77	0.71	0.63

Chart 4.18 Liquidity ratios of Lenovo Group



We can easily see the trend of liquidity ratios during 2011 to 2015 from chart 4.18. Current ratio kept a stable trend. Quick ratio's change is obviously, fluctuated widely. In 2011-2012, it increased a lot and decreased a lot from 2012 to 2015.

Current ratio is a measure of corporate liquidity in short-term debt before maturity, the higher the current ratio, greater the liquidity of corporate assets. From the table, we can find that current ratio all below or equal to 1, it means the level of liquidity is low.

Quick ratio is a measure of the company's assets as liquidity indicators. Reflect the company's cash or realizable assets to current liabilities ability to repay immediately, it is similar to current ratio. Its amount is about 0.6~0.7, the highest is 0.88, the ratio is not high, means that the Lenovo Group's current indebtedness may occur repayment risk.

4.2.3 Solvency ratio

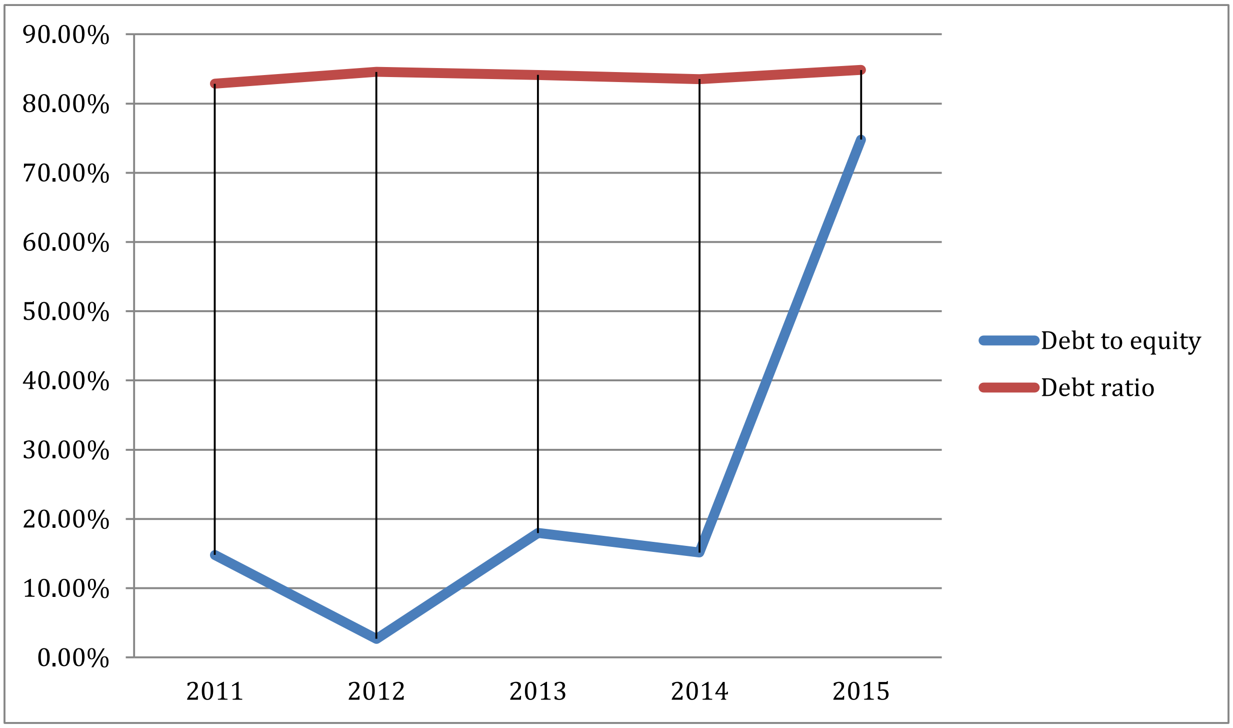
Solvency ratio is one of financial ratios to analysis the company. It is used to measure the ability of a company’s long-term debts. It provides the assessment of company’s long-term obligations include components of its financial structure.

Then, we will see the solvency ratio of Lenovo Group. In the table 4.8 is debt ratio and debt to equity ratio. Chart 4.19 is the development trend of these two ratios. And chart 4.20 is the trend of interest coverage.

Table 4.8 Solvency ratio of Lenovo Group

	2011	2012	2013	2014	2015
Debt to equity	14.80%	2.67%	17.96%	15.14%	74.79%
Debt ratio	82.861%	84.566%	84.124%	83.523%	84.838%

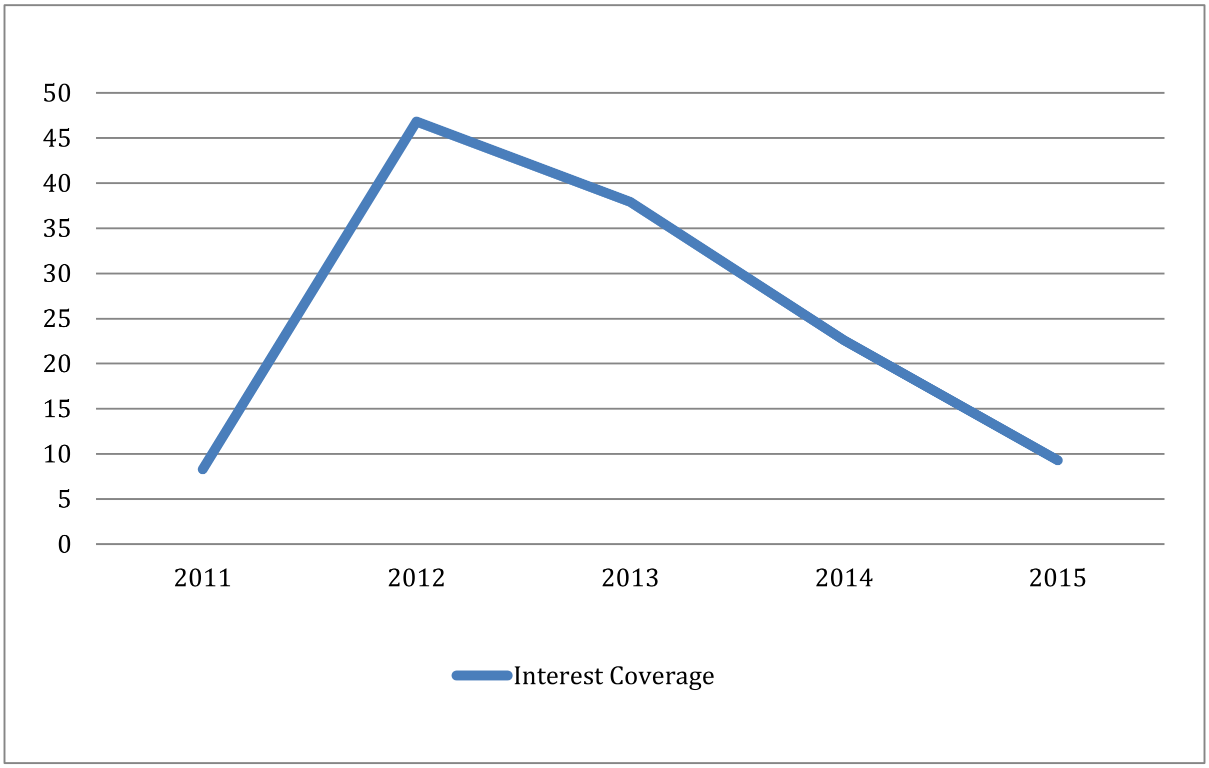
Chart 4.19 Solvency ratio of Lenovo Group



It is a leverage ratio because it measures the degree that assets (of the enterprise) are financed by debts and shareholders' equity We can find that debt to equity’s change is very big, the ratio in 2011 and in 2015, have a 60% difference. And it was very low in 2012, indicating that company has better financial situation. On the contrary, the ratio in 2015 is very high. The ratio generally is less than 1.0.

Debt ratios display percentages and leverage assets by the process of loan financing obtained, may also explain the situation to the creditor protection. When comparing to debt to equity, the debt ratio is very stable during this period. It kept between 80% and 85%. The debt ratio is smaller and better.

Chart 4.20 Activity ratio of Lenovo Group



Interest coverage is also called times interest earned, it also known as interest earned ratio, refers to the project in the interest of each loan repayment period can be used to pay interest on pre-tax profit and the current ratio of interest expense payable. The formula can be found in (2.23) and (2.24). It increased a lot during 2011and 2012. From 2012, it kept decreasing. We can see the interest coverage in each year is more than, indicates Lenovo Group has the ability to repay its interest.

4.2.4 Activity ratio

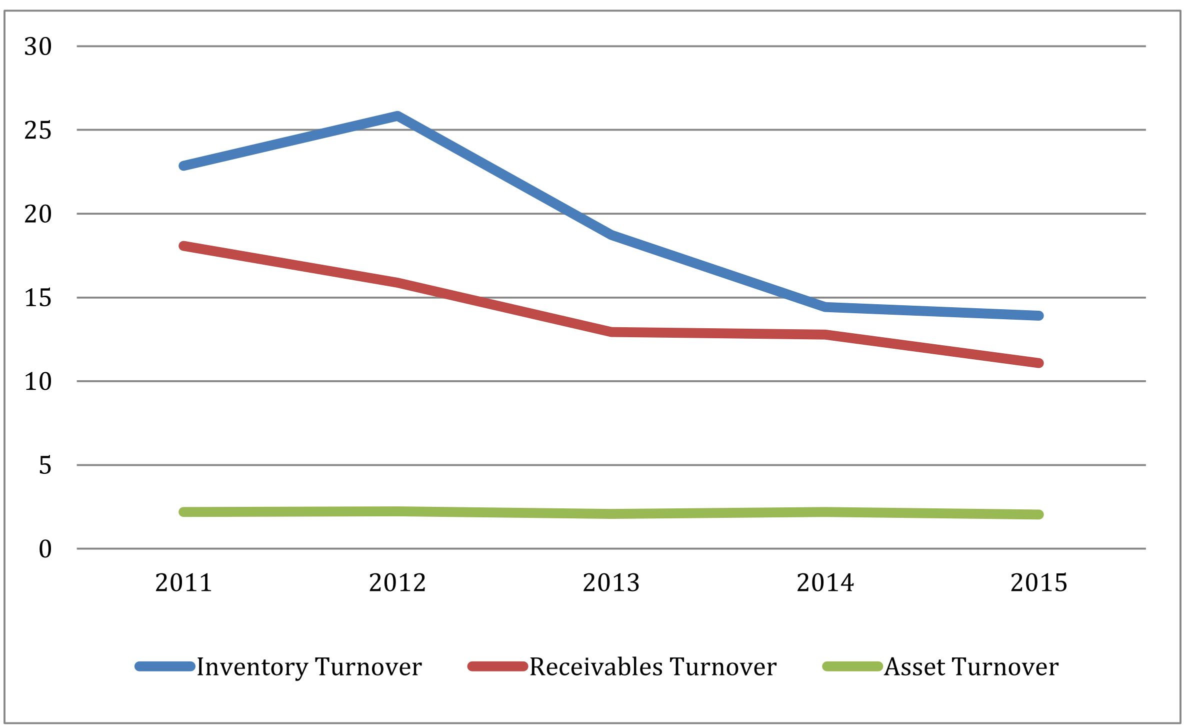
Activity ratio measures, how a company uses its assets, shows how much the company invests. It is also known as assets management ratios and operating efficiency ratios. Then we will analyze with the activity ratio about Lenovo Group.

The below table and chart are activity ratios of Lenovo Group during 2011 and 2015. Table 4.9 is the data. Chart 4.9 is the trend of ratios.

Table 4.9 Activity ratio of Lenovo Group

	2011	2012	2013	2014	2015
Inventory turnover	22.86	25.84	18.72	14.42	13.91
Receivables turnover	18.07	15.88	12.93	12.78	11.09
Asset turnover	2.2	2.23	2.07	2.2	2.04

Chart 4.21 Activity ratio of Lenovo Group



We can see the activity ratio from table 4.9 and chart 4.21.

Inventory turnover ratio is the ratio of cost of goods sold and average inventory balances enterprise certain period. We can find that the ratio increased during 2011 to 2012, but after 2012, it kept decreasing. In 2012, the ratio reached to about 25%, it shows that Lenovo Group has strong ability to convert inventory assets into cash, inventories and occupancy in the inventory cash flow faster.

Accounts receivable turnover ratio is the average number of times in a given period (usually a year) accounts receivable into cash. Receivables turnover ratio kept decreasing, in 2011 is 18%, in 2015 is 11%. Generally, the accounts receivable turnover ratio is better as high as possible, so it was good for Lenovo Group in 2011. The reason for decreasing during back period may be the Lenovo Group's receivables were higher than revenues.

Total assets turnover kept remaining at around 2%, this ratio shows company's assets to come into being revenues. If the ratio is high, it shows that the company's total assets turnover is faster. From table 4.9, we can find in 2011, 2012 and 2014, the ratio were high, shows Lenovo Group's efficiency of assets were high. It was a good situation for Lenovo Group.

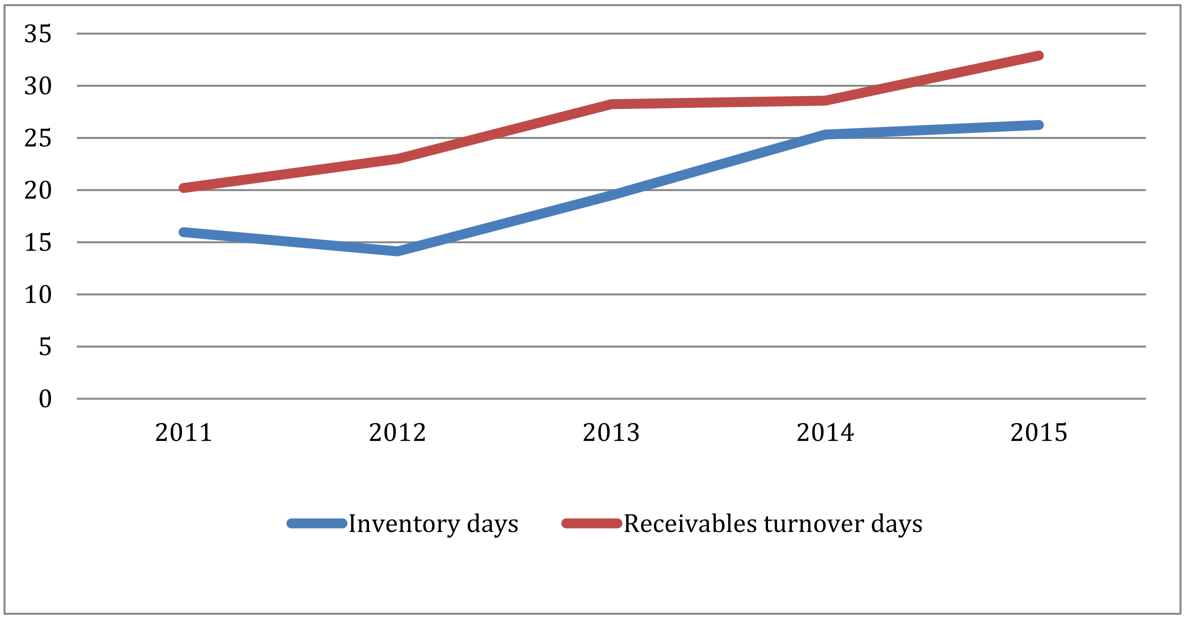
Next are days in inventory and days in receivables turnover ratio.

Days in inventory, it is a ratio that measures the number of days that the company use before selling the inventory. To calculate this, we need to know costs of goods sold and average inventory.

Table 4.10 Activity ratio of Lenovo Group

	2011	2012	2013	2014	2015
Inventory days	15.97	14.12	19.5	25.31	26.24
Receivables turnover days	20.2	22.98	28.23	28.56	32.91

Chart 4.21 Activity ratio of Lenovo Group



We can see that inventory days decreased during 2011 to 2012, from 15.97 to 14.12, then it increased to 19.5 in 2013. It kept increasing from 2013. In 2015, it increased to about 26.24. But generally, the ratio of days in inventory is better to be small, so it is not good for Lenovo Group, because it kept increasing.

Accounts receivable turnover days is an enterprise from the right to recover the money to accounts receivable, cash conversion time required. It is a supplementary indicator of accounts receivable turnover ratio. The result is in table 4.10 and chart4.21.We can see the receivables turnover days were increasing continuously, from 20.2 to 32.91. The accounts receivable turnover days are better to be shorter, because it shows better working capital efficiency if the ratio is small. It is used to measure how long it takes to recover the company's accounts receivable, within the scope of the company operating capacity analysis. So, in this condition, it is unfavorable for Lenovo Group.

4.3 Pyramidal decomposition

DuPont analysis (DuPont Analysis) is using the relationship between several key financial ratios to a comprehensive analysis of the financial situation of enterprises. We use this to calculate Lenovo Group's level of profitability and return on equity.

We will use calculation in (2.30), (2.31) and (2.32) to do pyramidal decomposition of ROE.

The below tables are data of each item in decomposition of ROE and absolute change of these items. And the change is based on the data of 2011 in the table.

Table 4.11 Data of each item in decomposition of ROE

	2011	2012	2013	2014	2015
Net profit margin	0.0127	0.016	0.0188	0.0211	0.0179
Asset Turnover	2.2	2.23	2.07	2.2	2.04
Financial Leverage	5.84	6.72	6.33	6.1	6.63
Return on equity	15.88%	22.55%	25.27%	28.79%	23.36%

Table 4.12 Absolute change of each item in decomposition

	2012/2011	2013/2012	2014/2013	2015/2014
Net profit margin	0.0033	0.0028	0.0023	-0.0032
Asset Turnover	0.03	-0.16	0.13	-0.16
Financial Leverage	0.88	-0.39	-0.23	0.53
Return on equity	6.67%	2.72%	3.52%	-5.43%

From table 4.11 and table 4.12, we can see the data and absolute changes of each item in decomposition of ROE. It is clear that ROE is negative in 2014-2015. Net profit margin is negative in 2014-2015. Asset turnover is negative in 2012-2013 and 2013-2014.

The below table is index of change of each item in decomposition.

Table 4.13 Index of change of each item in decomposition (%)

	2012/2011	2013/2012	2014/2013	2015/2014
Net profit margin	1.26	1.18	1.12	0.85
Asset Turnover	1.01	0.93	1.06	0.93
Financial Leverage	1.15	0.94	0.96	1.09
Return on equity	1.42	1.12	1.14	0.81

From table 4.13, we can see the index of change of each item in decomposition, and all calculation is based on 2011. It's clear that the index change was high during 2011 to 2014. Both of them are over 1. In 2012-2014, the index of change of financial leverage ratio is below 1 – 0.94. And the index of change of asset turnover in 2015/2014 is 0.93, also below 1.

In pyramidal decomposition, there are three methods to analyze: gradual changes, logarithmic decomposition and functional decomposition.

In this part, we will choose one method to introduce and calculate. It will be the second method - logarithmic decomposition.

Table 4.14 Logarithmic decomposition method

	a_{2011}	a_{2012}	I_a	ΔX_{ai}	Order
a_1=EAT/REVENUE	0.0127	0.016	1.26	4.58%	1
a_2=REVENUE/ASSET	2.2	2.23	1.01	0.19%	3
a_3=ASSET/EQUITY	5.84	6.72	1.15	2.77%	2
Sum	x	x	x	7.54%	x
	a_{2012}	a_{2013}	I_a	ΔX_{ai}	Order
a_1=EAT/REVENUE	0.016	0.0188	1.18	3.28%	1
a_2=REVENUE/ASSET	2.23	2.07	0.93	-1.44%	2
a_3=ASSET/EQUITY	6.72	6.33	0.94	-1.23%	3
Sum	x	x	x	0.61%	x
	a_{2013}	a_{2014}	I_a	ΔX_{ai}	Order
a_1=EAT/REVENUE	0.0188	0.0211	1.12	2.25%	1
a_2=REVENUE/ASSET	2.07	2.2	1.06	1.16%	2
a_3=ASSET/EQUITY	6.33	6.1	0.96	-0.81%	3
Sum	x	x	x	2.6%	x
	a_{2014}	a_{2015}	I_a	ΔX_{ai}	Order
a_1=EAT/REVENUE	0.0211	0.0179	0.85	-3.22%	1
a_2=REVENUE/ASSET	2.2	2.04	0.93	-1.44%	3
a_3=ASSET/EQUITY	6.1	6.63	1.09	1.71%	2
Sum	x	x	x	-2.95%	x

The above table is the logarithmic decomposition method of calculating ROE. We will show the example of 2011-2012 (the following calculation process). Through this example, we can understand the calculation method of the logarithmic decomposition.

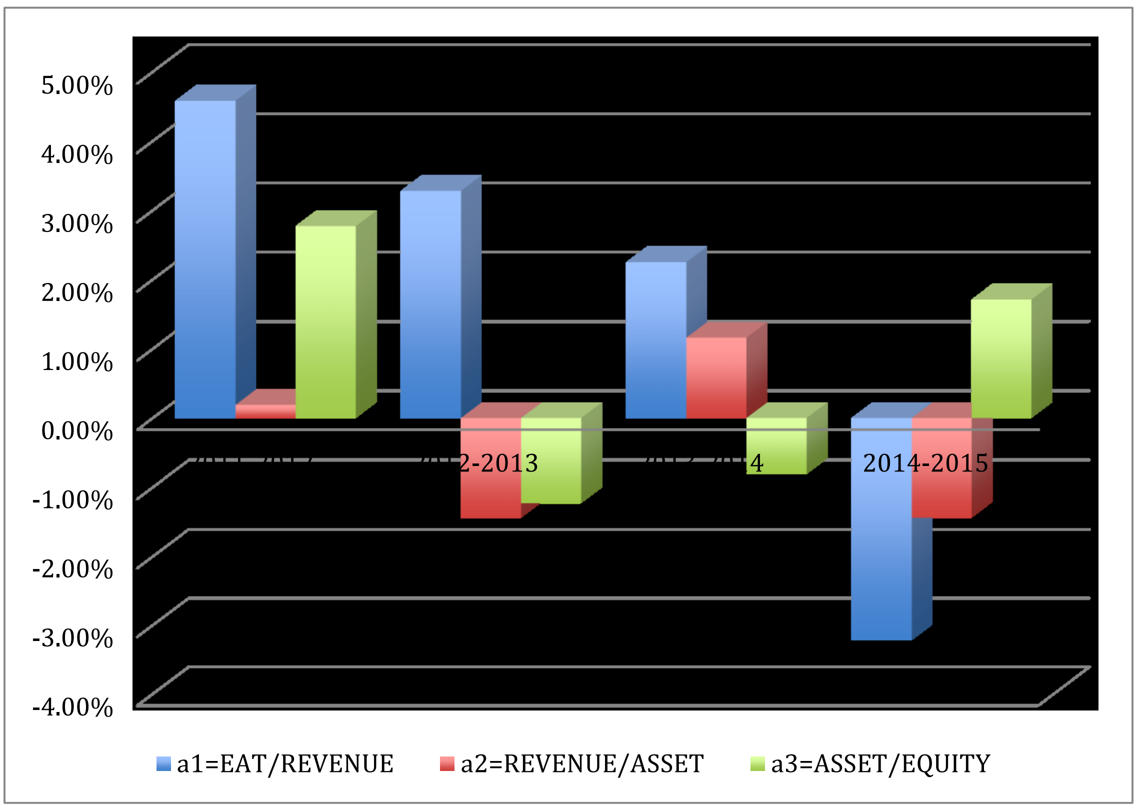
For a_1: ΔROE_{a1}= (In 1.26 / In 1.42) $\times$ 6.67% = 4.58%

For a_2: ΔROE_{a2}= (In 1.01 / In 1.42) $\times$ 6.67% = 0.19%

For a_3: ΔROE_{a3}= (In 1.15 / In 1.42) $\times$ 6.67% = 2.77%

The data of the logarithmic decomposition method is based on the table 4.11, table 4.12 and table 4.13.

Chart 4.22 Logarithmic decomposition method



From table 4.13, we can see during 2012 to 2013, asset turnover and financial leverage have influences on ROE. They are negative. From 2014 to 2015, net profit margin has a big influence on ROE, also negative and it was the most, so the sum was negative number.

In 2012-2013, net profit margin was positive number, it influence the sum mostly. Also in 2013-2014, the net profit margin was positive and it influenced the sum to be positive. Net profit margin is product profitability, at the time of analysis can be performed in a separate product. Product line can also be used to confirm the rate of net sales.

So, it is easily to find the net profit margin was the most influencing ratio towards ROE.

From chart 4.22, three ratios were all positive during 2011 to 2012 and net profit margin reached about 4.6%, financial leverage reached about 2.8%. These two were high. Asset turnover reflects the efficiency of asset management; In 2012-2013, in addition to net profit margin, other two were both negative. The net profit margin reached to about 3%. Between 2013 and 2014, only financial leverage was negative. The net profit margin’s influence on ROE was clear and big. Financial leverage reflects the company's role in promoting the use of debt financing to owners return on investment During 2014 and 2015 both of net profit margin and asset turnover were negative, only financial leverage was positive, but leverage’s high may have some risk, Lenovo Group meet with some risk in 2014-2015.

Overall, when using DuPont analysis, needs and industry data can be well positioned to compare the company's position in the industry, which is relatively good an idea. This helps in-depth analysis and comparison of business performance. But, ROE only reflects the financial year short-term earnings, but does not reflect the long-term investment for the company's role in promoting long-term profitability, lack of the reflection of the company to obtain gains the risk assumed. ROE reflect in the company's ownership interest of return, but does not reflect the market value.

5 Conclusion

This thesis is about what is financial analysis and how to analyze a selected company's financial situation. Financial analysis is based on accounting, evaluation, company's financial data and various ratios and etc. to do analyzing, investment and other business activities.

In this thesis, we introduce the methodology of financial analysis: three statements, four financial ratios and pyramidal decomposition. And we describe the Lenovo Group's information, such as history, financial situation and company structure. Finally, we analyze the Lenovo Group' financial situation from three aspects with the method given in chapter 2.

The aim of this thesis is financial analysis of a selected company - Lenovo Group. We will select the period from 2011 to 2015, these 5 years as one analysis period. We will introduce three statements, two methodologies: common-size analysis, financial ratio analysis.

The thesis is divided into five parts, the first part is introduction and the second part is description of financial analysis methodology. Next part is information about Lenovo Group. The fourth is analysis, calculation of Lenovo Group. The last part is conclusion.

By analyzing the Lenovo Group, we find that the company keeps a good development during these five years. Especially between 2011 and 2014. And we can see the Lenovo Group has a strong ability to generate assets, use these assets to develop and make more rising space. Through analyzing the company, we find Lenovo Group's main revenues and income are from sales, expenses are from costs of goods sold, shows that

Lenovo Group mainly rely on selling electronic products to make profits and its costs of products are high, so it is important for company to think how to reduce the costs. And after financial ratio analysis, we find that recent year, Lenovo Group' development decline, does not reach the situation of before years. It does not mean Lenovo Group does not develop in 2014-2015, it means the development is lower and worse than years before. So for the company, it is important to pay attention to find its better ways of financial situation and development. And recent years, Lenovo Group is devoting to merger and acquisitions of other electronic companies. The mergers and acquisitions activity has not caused the decline in profitability, and its profitability index increased year by year. But mergers and acquisitions cost are large, they lead to too much debt and have leverage risk. So it is worth noting, due to mergers and acquisitions, maybe lead to rising profitability ratios, there may be potential financial risks, Lenovo Group should focus on the core business profitability, rather than through mergers and acquisitions to increase amount and expand sales.

In a word, the financial analysis results help us to understand and analyze the situation of a company. It is meaningful and important for a company, so we should pay great attention to it. Through financial analysis, shareholder of the company will know the situation of their company and find the way about how to improve the economic and development of the company; for the enterprise, the business risks and financial risks faced by the company are in the corresponding amplification, so companies need specialized financial analysis to reveal the related risks and opportunities for management, further to take the necessary financial controls, in order to achieve the purpose to avoid and prevent risks; for company's investors, creditors or other individuals, they will get more information about the company and to do better decision, ; for company's investors, creditors or other individuals, they will get more information about the company and to do better decision.

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List of Abbreviation

OPM Operating profit margin

NPM Net profit margin

ROA Return on assets

ROE Return on equity

EBIT Earning before interest taxes

EAT Earning after taxes

EBT Earnings before Tax

ART Accounts receivable turnover

IT Inventory turnover

ACP Average collection period

TAT Total assets turnover

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陈雪欣 CHEN XUE XIN

Student´s name and surname

List of Annexes

Annex 1: Balance sheet of Lenovo Group in 2011-2015

Lenovo Group Ltd. (balance sheet)					
YEAR	**2011**	**2012**	**2013**	**2014**	**2015**
All values HKD millions.					
ASSETS					
Cash & Short Term Investments	23410	32870	28510	31140	24890
Cash Only	17290	20820	20260	29930	22680
Short-Term Investments	6130	12060	8250	1210	2219
Total Accounts Receivable	27870	42760	43820	43610	61810
Accounts Receivables, Net	10650	18280	22400	24600	40140
Other Receivables	17230	24480	21420	19010	21660
Inventories	6250	9460	15250	20950	23220
Other Current Assets	5700	8640	10850	10770	12230
Miscellaneous Current Assets	1500	1970	2280	2530	2570
Total Current Assets	63230	93740	98430	106470	122150
Net Property, Plant & Equipment	1880	3850	5150	8770	14020
Property, Plant & Equipment - Gross	5670	8080	9670	13730	20020
Buildings	920.74	1960	2390	2970	4110
Other Property, Plant & Equipment	2650	3170	3600	4880	9080
Accumulated Depreciation	3790	4220	4510	4960	6000
Total Investments and Advances	619.17	585.06	564.54	433.7	923.54
Other Long-Term Investments	612.06	558.59	543.09	272.71	569.07
Intangible Assets	16600	24000	25820	25900	69230
Net Goodwill	12020	17710	18660	18540	38180
Net Other Intangibles	4580	6290	7160	7370	31050

Other Assets	488.58	348.09	620.24	317.14	2060
Tangible Other Assets	413.27	242.87	336.73	-	319.36
Total Assets	**83270**	**123140**	**131050**	**142400**	**209960**
LIABILITIES &SHAREHOLDERS'EQUITY					
ST Debt & Current Portion LT Debt	2110	488.76	1360	3460	9060
Accounts Payable	17270	32430	28910	37700	37470
Income Tax Payable	752.24	1050	777.65	1380	1310
Other Current Liabilities	41890	57710	62810	61900	85210
Total Current Liabilities	62480	91690	93860	104430	133050
Long-Term Debt	0	0	2350	78.54	14620
Provision for Risks & Charges	3660	3850	3440	3360	5830
Deferred Taxes	316.81	31.42	427.08	608.06	11.63
Other Liabilities	2730	7950	8750	8840	22140
Other Liabilities (excl. Deferred Income)	575.4	4980	5620	5440	17890
Deferred Income	2160	2960	3130	3400	4250
Total Liabilities	69000	104140	109290	117820	177210
Non-Equity Reserves	-	-	953.57	1120	917.74
Accumulated Minority Interest	1.39	673.4	105.09	113.188	174.27
Total Shareholders' Equity	14270	18330	20700	23350	31660
Total Equity	14270	19010	20810	23460	31830
Liabilities & Shareholders' Equity	**83270**	**123140**	**131050**	**142400**	**209960**

Annex 2: Income statement of Lenovo Group in 2011-2015

Lenovo Group Ltd. (Income Statement)					
YEAR	**2011**	**2012**	**2013**	**2014**	**2015**
All values HKD millions.					
Revenues					
Sales/Revenue	167890	230020	262720	300270	358970
Non-Operating Interest Income	193.8	332.06	348.10	262.92	239.61
Basic Shares Outstanding	9630	10130	10310	10370	10670
Diluted Shares Outstanding	10150	10340	10460	10500	10770
Expenses					
Cost of Goods Sold (COGS) incl. D&A	149510	203770	231840	261970	309390
Research & Development	2360	3500	4790	5470	9020
Other SG&A	13670	18220	20670	24850	30460
Other Operating Expense	0	0	65.42	0	0
Unusual Expense	0	208.7	244.57	50.83	2190
Equity in Affiliates (Pretax)	1.75	6.62	5.57	0	0
Interest Expense	126.96	60.62	97.66	572.38	1380
Income Tax	657.08	832.43	1320	1530	1040
Non Operating Income/Expense	365.42	59.02	362.74	180.03	3750
Minority Interest Expense	0	18.85	27.58	1.88	61.16
Consolidated Net Income	2120	3700	4900	6340	6490
EBIT after Unusual Expense	-	4320	5610	7930	12290
Pretax Income	2780	4530	6210	7800	7400
Net Income	2120	3680	4930	6340	6430
EBITDA	3720	5900	6990	9960	14030